













# Dominion Medical Monthly

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## Original Articles

### “THE BALLAD OF THE SERVICES,” AND ALLIED STUDIES

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*Di prohibite minas: di, talem*

*Avertite casum, et placidi serrate pios.—Virg. Lib. III.*

Sir James Paget said: “And so in toil, yet not in weariness, they pursue their way, sowing seed of which they reckon not whether they shall reap any fruit, content because they are in the path of duty: blest if only they see or think they minister to the welfare of their fellow-men.”

From *British Medical Journal* I present Townataskin's interpretation of our medical services in foreign lands, so well praised in the prolegomena or words of Sir James, which evidently were the incentive for these lines:

Poets sing of battle's splendour, how their heroes fought and died for their country, for their freedom, in their youth and manly pride. Homer chanted deeds of glory, and undying halos flung round the gods and men of Hellas, when the world was fresh and young. Deeds since then of fame and prowess, brightened many a battlefield: noble hearts like Spartan victors, fighting, sank upon their shield. Yet how many hearts were broken, when the tidings came afar, that the loved ones slept forever, on the crimsoned field of war. But the heroes few remember when the laurel wreaths are given, have in noble duties perished, or in purer pathways striven. Who in sickness and in sorrow cheered the soldier on his way, o'er the burning sands of Egypt, in the tropics day by day? When the scorching sunlight smote him, when the fever racked his brain, who then eased the throbbing temples, cooled his lips, relieved the pain? When his life's blood quick was gushing, and the spirit near its flight, who then stopped the precious fountain, changing

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darkness into light? Ah! my brothers, scant the glory we for toil and labor reap; yet, we'll onward, brave and fearless, let our records angels keep. In the battle smoke and thunder, facing death with dauntless breast, striving in thy sphere and duty, take thy glory—or thy rest.

"He enlists who takes the shilling," and the result is well illustrated in "*Qui prend s'engage*," of which Una Artevelde Taylor is the authoress, and was published by the *Westminster Gazette*, but a more elaborate description of the work of press-gangs can be found in the classical works of Tobias Smollett, M.D. (1721-1771), especially in "*Roderick Random*" and "*Peregrine Pickle*": Morning and Maytime. The sungold glinted through larch-grove and oakwood all bathed in dew. On woodspurge and windflower, lilac-tinted, on crimson of orchis and hyacinth blue.—"*Qui prend s'engage!*" We took the King's Shilling! In days to come, beat of the drum, dust of the road, long noonday marches, a flag to follow, glad or unwilling, defeat or, maybe, triumph arches. Reaped the cornfields, late poppies redden in withered grass where the dim mists rise, the laggard twilight is grey and leaden, in larch-grove and oakwood the rose-dusk dies. "*Qui prend s'engage!*" We wore the King's Color! A thirsty land of drought and sand, white tents at night and a hot wind fretting, sleep, when the blare of the camp grows duller, a brief, brief dream when the sun is setting.

Autumn and nightfall. My old playfellow, the owls are hooting in larch-grove and oak, a sleepy moon hangs, round and yellow, over the field where the weed-fires smoke.—Deserted, we two!—Wrists bound, wounds aching, a last parade with the King's Brigade, beat of the drum, the King's flag flying, a stain on the turf when the day is breaking—" *Qui prend s'engage*," living or dying.

These lines by Miss Taylor were sent to me in 1897 by Sergeant Anderson, King's Royal Rifles, Chacrata, India. It cannot be said in the words of Kipling, that the surgeon, "lifted up my head, and 'e plugged me where I bled, and 'e giv me 'arf a pint of water, green." No! It is not on record that either deserter made this statement.

In this our copy relative to the surgeon in warfare I recall the assertion of Homer, who tells us Patroclus, from the thigh of Euryphylus, "cut out the biting shaft; and from the wound with tepid water cleansed the clotted blood; then, pounded in his hands the root (mandragora) applied astringent, anodyne, which all his pain allayed; the wound was dried and stanchd the blood."

Although, according to Kipling, "When 'Omer smote 'is bloom-in' lyre, 'e'd 'eard men sing by land and sea, and wot 'e thought 'e would require, 'e went and took, the same as me"—even as I am doing in the presentation of these *analecta de bellis et chirurgis*. I, too, must admit I am a poacher in obscure volumes, and especially pleasing and instructive is it for me to learn that even Virgil and Horace, my old friends, were plagiarists of no mean order, and the scholiasts, learned in the classics have proved that there is but little in literature that is new; in fact, as Knox says: "the thoughts we are thinking, our fathers have thought." The favorite writer Montaigne (1533-1592), whom Dr. Wm. Osler admires, tells us: "There is more ado to interpret interpretations than to interpret things, and more books upon books than upon all other subjects: we do nothing but comment upon one another." Yes, he who gave us the Iliad, records the fact that Machaon and Podalarius, sons of Aesculapius, were very much honored and important personages connected with the Greek army. In the third great siege of Troy, Paris "the spouse of Helen dealing darts around," struck Machaon in the right shoulder. Nestor, the old war king, carried him—the great Machaon—from the battlefield in his own regal chariot, and this event having been noticed by the faithful Achilles, skulking in his ship, he gave orders to Patroclus to make inquiries. The poet, when narrating this event, wrote this eulogium:

"A wise physician skilled our wounds to heal,  
Is more than armies to the public weal."

For this *cento medicalis* I may state that the Great Machaon, as history informs us by Virgil, was one of those resolute men who by device were the first to behold Troy within her gates, and evidently died in the siege. Podalarius survived Neptunian Troy's downfall, performed the successful operation of venesection for the daughter of a king (the first recorded case, says Sprengel, *Hist. de la Med.*, Vol. 1, page 131, Pod. Anth. Class. Dic.), and married her, as history informs us.

Yes, "Of two famed surgeons, Podalarius stands  
This hour surrounded by the Trojan bands,  
And great Machaon, wounded in his tent,  
Now wants the succor which so oft he lent."

—*Popc's Translation of the Iliad.*

During the Persian wars with the Asiatic States, Darius I. (521-485 B.C.), self styled "King of the Civilized World," and

"King of Kings," had Greek doctors in his suite. His successors also had the same surgeons. Ctesias of Cnidus, from 414-398 B.C., was in the service of Persian kings; he is remembered not only as surgeon, but as a great historian, even as Herodotus or Xenophon, of the Persian wars, in which wars prisoners were treated with kindness and marked favor. The Arcanian, Philip, was physician and surgeon to the Great Alexander, and history gives us a fine illustration of Philip's fidelity, honor and skill. The illustrious Galen, by command of Marcus Aurelius, accompanied him in his northern campaigns. Such, in brief, illustrates the nobility of surgery in the earliest years.

In the British Museum, London, there is a book, whose title is "Viaticum, the Pathway to the Surgeon's Chest," by John Woodall, Surgeon. It is stated that he was elected to fulfill the office of supervising and arranging the medicine chests for the navy. Each chest contained a treatise, and directions were given relative to the employment of the remedies, closing with the following admonition and advice to young surgeons:

"Let surgeons' mates, to whom I write,  
Be warned by me, their friend,  
And not too rashly give a dose,  
Which then's too late to mend.

"For many a good man leaves his life  
Through errors of that kind,  
Which I wish young men would avoid,  
And bear my words in mind.

"Tho' sulphur, salts and mercury,  
Have healing medicine store,  
Yet know they are poison, and can kill;  
Prepare them well before."

"Despite the seeming impertinence of this doggerel, Woodall was a right good surgeon in those days of the press-gangs; he introduced lemon-juice into the navy for the prevention of scurvy"—(Captain Cook did it before his time—"used tobacco juice enemas for intestinal obstruction, as results of his own experience. He devised the trephine, suggested amputation for gangrenous limbs and the use of ligatures for large trunks of blood vessels." Again referring to "press" or impress "gangs," I am told that within the last half century—men, honest men, have been dragged

as beasts on shipboard of British men-of-war vessels, thus confirming the seafaring life so classically described by Dr. Smollett and writers of a later period.

"Who are the heroes?" Dr. Marsh, Pensacola, asks, and defines who they are: "Who are the heroes? Are they those alone, who 'mid crash of shot and bullets' call, plunge madly on in face of fiercest foe, and win their cause, or for it fall? Are heroes only those who rush in sudden fray, and do some gallant deed of quick portent? Is heroism not more really shown by those whose lives from day to day are spent in baffling with the ills of life, and who go with forewarned vision to the dreadful things which silently creep upon the lives of men and take them hence with unseen wings? The first in life's eventful morn moor the frail bark of helpless birth into safe haven from the storm of pain and sore distress, and last when shadows deepen into night of death, and breath is stilled and form gives o'er the struggle, and passive peace doth spread her brooding wings, and with soft fingers woos the last long smile of sweet content, on passive face, whose battles all are o'er, with no more foes to face, no pains to ease, for God hath said, 'Peace, be still,' and 'Peace hath come to go no more.'" These are the heroes, for they seek no titles rare, they claim no scroll on which their names to score; but with fleeting recompense of gratitude, which lasts until the bill is rendered, and which like dew before the morning sun is then forgot and sour-faced visage their recompense in lieu thereof."

That the military verse of Edgar Wallace, a correspondent of *London Daily Mail*, has the true Kipling ring is apparent enough in the following specimen of his work: "A tent is pitched at the base; a wagon that comes from the night; a stretcher—and on it a case; a surgeon, who's holding a light. The infantry's bearing the brunt—O, hark to the wind-carried cheer! A mutter of guns at the front; a whimper of sobs at the rear. And it's War!—'Orderly, hold the light; you can lay him down on the table; so, easily—gently! Thanks—you may go.' And it's War! but the part that is not for show.

"A tent with a table athwart, a table that is laid out for one; a waterproof cover—and nought but the limp, mangled work of a gun. A bottle that's stuck by a pole, a guttering dip in the neck; the flickering light of a soul on the wondering eyes of the Wreck. And it's War! 'Orderly, hold his hand; I'm not going to hurt you, so don't be afraid. A ricochet! God! what a mess it has made.' And it's War! and a very unhealthy trade.

"The clink of a stopper and glass;  
   A sigh as the chloroform drips;  
   A trickle of—what? on the grass,  
   And bluer and bluer the lips,  
   The lashes have hidden the stare,  
   A rent, and the clothes fall away . . .  
   A touch and the wound is laid bare . . .  
   A cut, and the face has turned grey . . .  
 And it's *War!* 'Orderly, take it out.  
   It's hard for his child and it's rough on his wife.  
   There might have been—sooner—a chance for his life,  
   But it's *War!* 'Orderly, clean this knife!' "

Is it for scenes such as Wallace has so faithfully described that our sons are being taught the goose-step drill in our public school grounds and to satisfy the maws of the great guns, grape and case shot? "To intrude an unskilled hand to such a piece of Divine mechanism as the human body is indeed a fearful responsibility," says Lord Lisgar. "Act upon thoughts as they come and strike the iron while hot. If I have done anything it has been done by acting upon thoughts as they occurred to me."

II. Kemp, in the *Forum*, gives us the song of the guns:

"I sing the song of the great, clean guns that belch forth death at will. "Ah, but the wailing mothers, the lifeless forms and still!  
 "I sing the song of the billowing flags, the bugles that cry before.  
 "Ah, but the skeletons' flapping rags, the lips that speak no more!  
 "I sing the clash of bayonets, of sabres that flash and cleave. And wilt thou sing the maimed ones, too, that go with pinned-up sleeve?  
 "I sing acclaimed generals that bring the victory home.  
 "Ah, but the broken bodies that drip like honeycomb! "I sing of hosts trimphant, long ranks of marching men. "And wilt thou sing the shadowy hosts that never come back again?"

Horace, in Lib. I., Sat. 111, as an old soldier, having fought under Brutus at Philippi, and thereby lost his patrimonial estate, tells us, "When creatures first at nature's birth, dumb, and unseemly crawled on earth: for acorns and for beds of leaves, they strove with fists, and then with staves; next use with iron arms supplied, and wars were fought, and warriors died; then speech was found, then language rose, and peaceful words succeeded blows." Yet Quintus Horatius Flaccus (born B.C. 65) in his works scarcely names his battles.

The following (by The Khan), entitled "Be Jingo," fully explains itself—and should be preserved by Col. Sam Hughes when

he and others meet Wellington and Blücher—extra Jordan—even Bonaparte; or even Lords Roberts and Kitchener:

“BE JINGO.”

(By the Khan.)

“I like to see the Grenadiers,  
The Boys, I mean, that swept the West,  
Stand up and tell of scenes of war,  
With kindling eye and martial crest;  
Of fearful scenes that they’ve gone through,  
Of things they did and didn’t do.  
Be Jingo, we were at Batoche,  
And “fit” at Fish Creek, too, by gosh.

“I like the flush of honest pride,  
I like to mark their martial air,  
I like the broad and swelling breast,  
The forage cap set on a hair,  
You talk to them of Cut Knife Hill,  
The answer through your soul would thrill:  
Be Jingo, we were at Batoche,  
And “fit” at Fish Creek, too, by gosh.

“And when they climb the golden stairs,  
And meet the men of Waterloo,  
When they begin again to tell  
How they made Bonaparte look blue,  
The boys will simply wait awhile  
Then answer with a withering smile:  
Be Jingo, we were at Batoche,  
And “fit” at Fish Creek, too, by gosh.

J. J. C. Clarke gives his version of a vision which was one of the ideals of Dr. W. H. Drummond, author of *The Habitant*, etc.:  
“ . . . ‘Oh! the fighting races don’t die out, if they seldom die in bed, for love is first in their hearts, no doubt,’ said Burke; then Kelly said, ‘When Michael, the Irish Archangel, stands (the angel with the sword) and the battle dead from a hundred lands are ranged in one big horde, our line, that for Gabriel’s trumpet waits, will stretch three deep that day from Jehosaphat to the

Golden Gates—Kelly and Burke and Shea.' 'Well, here's thank God for the race and the soil,' said Kelly and Burke and Shea." " . . . . *La guerre*" (wrote Von Moltke) "*est une institution de Dieu. En elle les plus nobles vertus trouvent leur épanouissement. Sans la guerre le monde se perdrait dans le matérialisme,*" and in the words of Joseph de Maistre we learn: "*Lorsque l'âme humaine a perdue son ressort par la mollesse, l'incrédulité, et les vices gangreneux qui sont l'excès de la civilisation, elle ne peut être retrempee que dans le sang.*" It may be stated the careful study of Price Collier's "*The West in the East*" and the works of Captain Mahan, U.S.N., President Lowell's volumes, and Lord Courzon's Travels in China and Japan will afford the Aesclepiadae and the student of ethnology and civilization much profitable study. Is civilization a failure? Is the Caucasian race played out? To use Lord Rosebery's words, "Are the nations still rattling into barbarism?" Are the two hundred or more sects in India, although fatalists, on the preparation to slaughter their neighbors, whose very shadow would pollute their only morsel? No!

The incentives most prominent in the establishment of war are found in the following four lines:

"The gold supplied the sword and shield  
For others in their cause to wield;  
And others, courage, others, pain,  
Brought them security and gain."

War has been, is, and ever will be the "Great Illusion," and the definition of it in all its hellish features Israel Zangwill has given us:

"To safeguard peace we must prepare for war.  
I know that maxim; it was forged in hell.  
This wealth of ships and guns and men inflames the vulgar,  
And makes the very war it guards against.  
The God of War is now a man of business,  
With vested capital,  
So much sunk Capital, such countless callings.  
The Army, Navy, Medicine, the Church—  
To bless and bury—Music, Engineering,  
Red-tape, Departments, Commissariats,  
Stores, Transports, Ammunition, Coaling-Stations,  
Fortifications, Cannon-foundries, Shipyards.

Arsenal, Ranges, Drill-halls, Floating Docks,  
 War-loan Promoters, Military Tailors,  
 Camp-followers, Canteens, War Correspondents,  
 Horse-breeders, Armorers, Torpedo-builders,  
 Pipeclay and Medal Vendors, Big Drum-Makers,  
 Gold Lace Embroiderers, Opticians, Buglers,  
 Tent-makers, Banner-weavers, Powder-mixers,  
 Crutches and Cork Limb Manufacturers,  
 Balloonists, Mappists, Heliographers,  
 Inventors, Flying Men, and diving Demons,  
 Beelzebub and all his hosts, who, whether  
 In Water, Earth or Air, among them pocket,  
 When trade is brisk, a million pounds a week."

"Humanity has no excuse for war," said Sir Oliver Lodge, but Ruskin says: "All the pure and noble arts of peace are founded on war. No great art ever rose on earth but among a nation of soldiers. There is no art among a shepherd people, if it remains at peace. There is no art among an agricultural people, if it remains at peace. Commerce is barely consistent with fine art, but cannot produce it. Manufacture not only is unable to produce it, but invariably destroys whatever seeds of it exist. There is no great art possible to a nation but that which is based on battle." With Kipling in his "Recessional," you and I, who have studied—not simply read—Schmidt's Ancient History, James' Romance of Chivalry, Baine's Wars, etc., etc.—will agree: "Lo! all our pomp of yesterday is one with Nineveh and Tyre." Glory leads to the only goal—*ad urnam*. "War is hell!" said plucky Phil Sheridan. In 1910, while in company with Captain Adams and an old friend (Cragg), I was visiting the graves of three army surgeons (Welch, Houghtaling and Van Velsor, associates in my earliest practice), in the cemetery of Humboldt, Iowa, I repeated or recalled the lines of Townataskim, named in the introductory to this medley. I said: "Captain, you who know what life was in Libbyville prison, is this poetry true?" His reply, "True, yes; but not half told; it cannot be told; it never was told." To Cragg, the graves of whose three (maternal) uncles were near by, I said: "Are these lines true?" His reply was: "I cannot give an answer, yet if grandmother, whose grave is over there, and mother, whose grave is near, and my three uncles could arise and appear, shattered as the three were to shreds, I know their reply: 'Yes, it was "hell!"'"

and pensions never pacified or soothed broken hearts." Is it the pibroch sounding, or is it the war drum I am hearing this bright-day Sabbath morning? Yes, it is the turnout of the battalion to church—even one of Christ's churches! Inconsistency, thy name is war, and war is an illusion, and what is the church, illusion, delusion or hallucination? From the days of bull-hide shields and the arquebuse to the Martini, mooney and molluscous men, with sacerdotal fee-faw-fums, have not discouraged war. Have they foresworn their obligations? To the praise and honor of our profession, it has been recorded in reports of the British War Office that in no department of the service, numbers being considered, can one find a larger number of holders of the coveted V. C. than in that marked Medical. Yes, we claim our fellows—the guardian angels of those who were at Agincourt, in Egypt—even Dargai, previous and other struggles. They were the bravest, the tenderest, the loving and the daring, each better far than any hundred men of war in the ranks or carpet-knights at home. I will not tell you how "Donal" Campbell—Donal" Bane—sailed away across the ocean with the tartans of Clan Gordon, to the Indies' distant shore, but on Dargai's lonely hillside, Donal" Campbell met the foeman, and the glen of Athol Moray will never see him more. O! the wailing of the women, O! the storm of bitter sorrow sweeping like the wintry torrent through Athol Moray's glen." Dr. W. H. Drummond's "Donal" Campbell" will tell the full story.

Burns, in "Jolly Beggars," gives us a good picture of the veteran: "And now that I must beg with a wooden arm and leg and many a tatter'd rag hanging o'er my bum, I'm as happy with my wallet, my bottle and my collet as when I used in scarlet to follow a drum. What though with hoary locks I must stand the winter shocks, beneath the woods and rocks oft'times for a houe, when t'other bag I sell, and t'other bottle tell, I could charge a troop of hell at the sound of a drum." The "child" of the regiment sang: "The godly old chaplain left him (the drummer) in the lurch, the sword I forsook for the sake of the church; he ventured the soul, and I risked the body, 'twas then I proved false to my sodger laddie. Full soon I grew sick of my sanctified sot, the regiment at large for a husband I got; from the gilded spontoon to the fife I was ready, I asked no more but a sodger 'laddie."

Robert Reid's "From the trenches" gives us the *illusion* in true colors, which, in part, I present, especially for my Scotch friends:

“ . . . There was Sandy McNab of Glen Dochart and Roy  
 frae the Angus braes,  
 And a pair o’ bonnier fechtters ne’er fae’d their country’s faes;  
 With big Neil Gunn, frae the Beauley—as ruckle and stieve a loon  
 As ever gralloched a raebnck, when the keeper was fou’ i’ the  
 toon.

“ . . . And they tell me I’m named in despatches, an’ sure  
 o’ the great V.C.,  
 But what I hae done to deserve the like it beats me yet to see;  
 For the corp o’ the commonest fechtin’ man is mair than enouch  
 to tyne,  
 But to pairt wi’ a leerin’ piper! losh, it never ance crossed my  
 mind!

“And what to do wi’t gin I get it pits a’ my brains in a creel,  
 I’ve as much use for a toy like that as a cairt for an extra wheel;  
 But Jennie, the limmer, micht like to see’t, and give me a kiss or  
 twa  
 To get weirin’t some day in her bosom—where it dootless would  
 look braw!

“But God forgie me for thinkin’ o’ ocht o’ the kind this day,  
 When the twa best freens man ever had are naething but sense-  
 less clay;  
 And oh! for my twa leal comrades ance more at my side to see,  
 And their crosses, and a’ sic havers, micht gang to the deil for  
 me.”

With Grotius, author of the great book, “War and Peace,” let  
 your prayer and my prayer be his noble prayer: “May God write  
 these lessons—He who alone can—on the hearts of all those who  
 have the affairs of Christendom in their hands. And may He give  
 to those persons a mind fitted to understand and to respect rights,  
 human and divine, and lead them to recollect always that the minis-  
 tration committed to them is no less than that they are the gov-  
 ernors of man, a creature most dear to God.”

These selections are presented as but segments from the swirl  
 of time and tide, as considerations more or less medical, and as  
 reminders, too, that we are more and more, as a profession, becom-  
 ing the advisers, friends and *counsellors* of the rulers of the  
 nations, and know full well the diseases contracted from camp fol-

lowers—not least in the retinue of any campaign, whose combatants have escaped the sword and shell, yet often carry homeward and to their sacred homes a relentless pestilence to wife and children—or to their hirelings (the *Hetairæ*).

*Such is War, the Great Illusion.*

P.S.—I may present more copy of the "*Arma Virumque*" and relentless wrath of heroes.—S.

187 George St., Belleville, Ont.

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### ENUCLEATION OF THE TONSIL

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Guthrie (Thomas), *Liverpool Medico-Chir. Journal*, January, 1914. The author describes the technique of Sluder's method of enucleating tonsils by means of a guillotine with a specially strengthened and rigid shaft. The tonsil is dislocated from its normal position, upward and forward, until its lower pole rests on and is pressed through the ring by the alveolar eminence. The remainder of the tonsil is then squeezed through by pressure of the operator's finger on the anterior pillar of the fauces and soft palate. The tonsil usually yields to the pressure rather suddenly, and when this is felt to have occurred, the knife is pressed home.

After a little experience there are very few cases in which one fails to secure complete removal by this method, and it has the advantages of rapidity and of entailing much less risk of damage to surrounding structures than any of the dissection methods. In those cases in which enucleation by Sluder's method is impossible, or at least uncertain, the author prefers to dissect out the upper pole with a blunt or half-sharp dissector and complete the removal by means of a snare.

The reasons advanced for preferring Sluder's method of enucleation by dissection in the vast majority of cases are: The absolute efficiency of the operation, together with the fact that it is much less severe than a dissection operation.

Much lighter and shorter anesthesia is required, the after-pain and discomfort are on the average less, and the risk of hemorrhage is lessened.—*Medical Chronicle*.

## THE ACADEMY OF MEDICINE

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The April meeting of the Surgical Section of the Academy of Medicine was held on the 21st ult., the chairman, Dr. Wallace Scott, presiding.

Dr. W. H. Harris presented a patient upon whom he had operated for traumatic Jacksonian epilepsy, with the following notes:

Mr. Spencer, aged 38 years. Born in England, and lived there till five years ago, when he came to Canada.

*Family history.*—Father died at age of 40 from cancer of cheek. Otherwise the history is negative. Mother, brother, wife and child living and healthy.

*Personal history.*—No previous illness, no history of specific disease. Smokes moderately, but does not use alcohol. A painter by trade. While engaged at his work fourteen years ago he fell 30 feet, receiving injuries from which he remained unconscious for a week and in the hospital six weeks. He does not know on which part of his head he was injured.

Two months after the accident he began to have attacks of numbness in the fingers of his left hand. The numbness was followed by flexion of the fingers, and this by flexion of the elbow. Sometimes the contractions would involve the face on the left side. About two minutes after the onset of the numbness and twitching consciousness was lost.

No pain associated with the onset, only a feeling of tightness on the left side of face and head.

At times the attack began in the face and consciousness was lost without the arm involvement.

Frequently incontinence of urine and biting of the tongue occurred during the attack. The seizures were usually at night. For the first year they occurred two or three times in 24 hours. He took treatment for nine years as an outdoor patient at Bootle Borough Hospital, England.

The seizures lessened in frequency, and for some time they had occurred once in three or four weeks. Physical examination reveals no abnormality except that the deep reflexes on the left side are slightly more active than those on the right.

We operated on him at Grace Hospital on the 1st day of December, 1913.

A surface flap on the right side of his head was turned down, four trephine holes were made and the intervening bone cut by a wire saw.

A piece of bone about 2 inches square was removed, exposing the right Rolandic area.

Sub-dural adhesions were found over the area of the operation, together with a fragmentary irregularity of the inner surface of the skull.

The adhesions were broken down. Considerable fluid escaped. The dura was sutured with catgut. The bone was not replaced. A piece of gauze was used for drainage. The skin sutured with silkworm gut.

Following the operation, about 5.30 p.m., the patient had a severe general convulsive seizure, followed by unconsciousness.

At 8.50 the same evening he had another attack, and this was repeated at 3.45 the following morning. Since this time he has had no further attacks to our knowledge.

To summarize, here we have the history of an injury followed by unconsciousness.

In the course of time cramps of a certain group of muscles appeared, and these were followed by complete epileptic seizures.

The operative findings were sufficient to warrant surgical interference.

The time elapsed since the operation is not sufficient to suggest that the patient has been cured.

#### DISCUSSION.

Dr. Wallace Scott referred to a case of Mr. Balance with a similar history, and on operation a tumor was found, which was removed, with an excellent result.

Dr. George Wilson agreed that the time since operation was not sufficient to enable one to express an opinion as to prognosis. Most of these cases do well for a time, but frequently the symptoms return. In view of the fact that consciousness was lost, this was not a true case of Jacksonian epilepsy. In Jacksonian epilepsy consciousness is retained and the patient watches the progress of the fit. It is an easy matter to remove sub-dural adhesions, but nothing so far known to surgery will prevent their forming again. Several substances such as gold leaf and cargile membrane have been tried, but thus far they have failed. Those cases give the best prognosis where some pathological lesions other than adhesions are present, as a subdural cyst or depressed spicule of bone. Removal of these usually cures the patient.

Dr. Bryans reported a case of difficult labor, as a result of which the baby had a large hematoma. Shortly after birth twitching on right side and a convulsive seizure came on in right arm and leg. This occurred daily at first, then became more and more frequent until at the end of about a year these attacks were so frequent that something had to be done. A section of the skull was removed about one and one-half inches square. Nothing special was found underneath it, but the baby has had but one attack since the operation, and now, four years afterwards, the child is in perfect health.

Dr. Cotton referred to a case of his that Dr. Anderson had seen. This man, now twenty-one years of age, when eight years old, while playing on the ice, had a severe fall and became unconscious for several days. At eighteen or nineteen years of age there came on a peculiar sensation in one leg, and this was followed by convulsions, which kept up for two years. These convulsions came on about once every two months. Later he came under Dr. Anderson's charge at St. Michael's Hospital. Then he had sixty fits in two weeks. He came under my care afterwards. I operated on him and found a subdural cyst. He has been perfectly well since. This was four years ago.

Dr. Harris, in reply, said there was just one criticism he could answer, and that was that of Dr. Geo. Wilson. "Medical literature says these seizures are very frequently followed by unconsciousness."

Dr. F. W. Marlow presented a case of fracture of the humerus. "The patient was a young man, whom I saw with Dr. Herbert Hamilton last April 8th, one year ago. This man had the habit of walking along the street with his hands in his pockets. He slipped and stepped off the raised part of the sidewalk, and before he could get his hands out of his pockets he fell on his elbow and fractured the left humerus. Dr. Hamilton and I saw him together and put his arm up temporarily in cotton and bandages. The following day an X-ray picture was taken. This showed a fracture of the humerus running from 2 inches below the head to a point about 3 inches above the elbow. With the assistance of Dr. Hamilton and Dr. Philip, I made a large incision over the outer part of the arm. Plating was considered, but the bone was found to be brittle and we then decided to make use of wiring. We first put a wire around the upper part of the bone dealing with the fracture extending up into the head. Then we attempted to drill, but when we tried to do so the bone was so brittle that it broke off in pieces. We got two holes drilled through the lower fragment and middle

fragment and put in two silver wires. The apposition was fairly good. After this treatment there was a slight amount of overlapping of the bones, but the arm was fairly straight. Following the operation there was a great deal of oozing. After the stitches were taken out the arm was put up in plaster. After putting on the plaster we made a window for dressing purposes, as a serious oozing continued. Later on the wound healed over and remained healed for some months. Then there developed a small sinus. With a probe one could readily feel a piece of the wire. I twisted the knot off and the wound healed up. Shortly after this, however, it broke down again, and subsequently a small fragment of bone was discharged. That was probably the cause of the trouble and not the wire. Since the piece of bone came out the wound has healed up and has remained healed.

"One other interesting feature of this case was that at the time of the fracture there was slight musculospiral disability, but this was not very marked. Gradually the disability got worse until the patient had a musculospiral paralysis. I was satisfied that the wire had not included the musculospiral nerve, as at the time of the operation I kept very close to the bone. As time went on and he began to do a little work the paralysis entirely disappeared and left him with a perfectly useful arm."

Dr. Herbert Hamilton did not know that he had anything to add except that both the patient and Dr. Marlow ought to be congratulated on the patience which they exhibited throughout the course of that summer and autumn. "With the development of a musculospiral paralysis and the marked wrist drop, I thought at the time that the musculospiral nerve was included in the scar tissue. In that first X-ray plate there is a very marked round triangular piece of bone entirely detached from the shaft. At the time of the operation that portion of the bone gave a great deal of trouble. The young man is now working at his trade with good use of his arm."

Dr. Powell said: "Dr. Marlow has raised the old question of the method of fixation. Having used wire, pegs and other means, I have come to think that kangaroo tendon is the least harmful and most useful material we have. In regard to the involvement of the musculospiral nerve, this lesion was, no doubt, due to compression and scar formation, or it probably may have been an irritative lesion, with loss of power for a time."

Dr. Hunter said: "Would it not be much better to leave such a fracture as that alone and merely treat it in the ordinary way?" Dr. Hunter referred to a case of a lad ten years of age run over

by a heavy wagon, the wheel of which passed between the wrist and the elbow, causing a fracture of the ulna and radius. He made a wooden box and put the arm in it and picked out what loose pieces of bone he could. Dr. B. E. McKenzie transplanted some of the tendons afterwards. The boy now has a useful arm. This arm was simply kept clean.

Dr. Wilson said the fact that the musculospiral paralysis came on slowly proved that it was compression paralysis, the nerve having got caught in the scar tissue. The reaction of degeneration can be tested any time after ten days. A response to Faradism indicates incomplete division, and the patient will probably recover in six or eight weeks. No response to Faradism and a sluggish response to galvanism with ACC KCC or equal to it shows that degeneration has set in. This reaction shows that there is complete division and there will be no improvement without operation. Consequently a definite prognosis can be given after ten days.

Dr. Clarence Starr congratulated Dr. Marlow on the satisfactory result obtained, both functionally and anatomically. "The question of interest here is the length of time the man was disabled. The question we ought to face is whether we are shortening the time of disability or lengthening it. My own view is that in fractures of this kind, even with fragments separated from the bulk of the bone, better results are obtained without operative interference. I would be pretty dogmatic in stating that fixation of that arm by splints alone would have given quicker results and equally good function. Personally I do not think there is any fixation like the plaster spica in these cases. This form of fixation becomes comfortable after twenty-four hours and gives better fixation than any other form. I doubt that that piece of bone would have come out at all or caused a sinus if the arm had not been opened up. Often in a simple fracture, where a fragment is broken off and apparently torn from the periosteum, union afterwards is quite good. Fractures which are not opened up and not exposed unite more rapidly than those which are cut into. I would not have any hesitation in stating that that patient, if he had been treated by ordinary methods, would have shown better results.

"The musculospiral paralysis coming on is often overlooked at the time of injury. Dr. Marlow says in this case there was a slight amount of musculospiral involvement, but as it was not serious the musculospiral was, therefore, not divided. It was contused, however. In my experience in cases of fractures of the humerus, I have rarely found the musculospiral nerve completely divided. This only happens where the limb is run over and where the tissues

are all destroyed. Often, however, this nerve is contused and musculospiral paralysis follows, with the usual wristdrop, but that always subsides, and if the wrist is held in an extended position strength returns earlier. Robert Jones of Liverpool says recovery takes place in half the time if the extensor muscles are relaxed. He puts the arm in those cases in a position of hyperextension."

Dr. Wallace Scott said he had had considerable experience plating and wiring bones. He believed that if possible to hold any fractures in position by outside means, this means should be used. The indication for operative treatment is only in those cases where the bones cannot be held in apposition. He thought the first X-ray plate showed the fragment in good apposition. Another indication for plating or wiring bones is in cases of un-united fracture or delayed union. "Dr. Marlow is to be congratulated on getting union the way he did. The aim of the surgeon in fracture cases should be to get good functional results. It does not matter if the bone is not the same shape as before, if it has good function."

Dr. Scott reported the case of a man who had his elbow run over. This man lost the lower end of his humerus, and there is an un-united fracture of the ulna and an outward dislocation of the radius. Notwithstanding this unsatisfactory anatomical condition the man can use the arm perfectly well, and the elbow seems just as good as if it had never been injured.

Dr. Cotton said: "This is one of the long bones of the body, and so is easy to work into position. In this case I would have put on Aiken's splint, using a poroplastic splint for the inside of the arm and running it well up under the axilla. Applying extension and counter extension, one can keep the bones in good apposition. We have had a good many of these cases at Grace Hospital, and have treated them in that way and with good results. Our experience is that bones are much longer in uniting and becoming solid with plating than they are without it."

Dr. W. J. Wilson explained that the Aiken splint is a piece of hoop iron which is made to extend over the shoulder and down to the wrist, an angular splint with two bends in it.

Dr. Marlow, in closing the discussion, said he was glad that this man had been treated in the way he had shown, if for nothing else than to evoke such a hearty discussion. "One question I am asked about is the disappearance of the paralysis. The paralysis began to clear up in ten weeks after its onset, and so far as this man being incapacitated for a long time is concerned, I may say he was ready to go to work as soon as the paralysis disappeared, and I think, no matter what method of treatment had been used, if

the same amount of paralysis had been present, he would not have been at work any sooner than he was by the method of treatment I adopted. It is very interesting to me to hear these expressions of opinion with regard to treatment of these fractures. This discussion has brought out the fact that surgeons are going back to the old method of treating fractures, that is, without plating. I believe the old method is the ideal way to treat all fractures if they can be treated in that way. In this case we were anxious to get results and anxious to put that bone in fixation. It is quite possible that by any other method the results might have been just as satisfactory.

"I remember last May, at Washington, hearing John B. Murphy discussing fractures. He made the statement that since he had been plating fractures so frequently he had attained very good anatomical results, but not the functional results he had by other means."

Dr. Julian Loudon showed an X-ray plate of a case of cervical rib. He said the case was of interest from the fact that this condition is quite often overlooked. These cervical or supernumeral ribs are simply ribs growing out of the last cervical vertebrae. The rib grows out and gets underneath the brachial plexus and causes symptoms of pain down the ulnar side of the arm. Other symptoms are wasting of the interossei muscles and sometimes wasting of the hyperthenar eminences.

"This patient had constant pain for two years, pain that did not respond to any treatment. I had an X-ray taken to see if there was a cervical rib. The photograph showed two cervical ribs, one on each side. These ribs are nearly always bilateral. This patient was between thirty-five and forty years of age, the time of life when these ribs usually cause trouble. These are congenital deformities and may never produce any symptoms.

Dr. George Wilson explained why in cervical ribs the pain occurs about the age of forty. He told of the statement of Prof. Arthur Keith. This teacher used to tell us that at that age the individual tends to lose muscular tone. At this age there is a general sagging, and with this dropping down there is a dragging on the first dorsal nerve. In some of these cases the rib goes around to the sternum, and unless one counts the ribs an X-ray will not help much. The ones I have seen have all been of the motor type. I have seen some eight cervical ribs, and none of them showed any sensory loss."

Dr. Clarence Starr said the three cases he had in mind had sensory changes only.

Dr. W. J. Wilson wished to know the proof that this rib was the cause of the pain.

Dr. Loudon, in reply, said: "That very thing is bothering me at the present time. The pain is constant. It should have left that position and not remained there so constantly when there was nothing to account for it. There are, of course, one hundred different causes of pain in the arm. One has to think of tubercle or new growth at the apex of the lung, syphilitic conditions, rheumatism, gout, etc. I tried to eliminate these causes first, and then, finding a cervical rib present, have put down the cause of pain to that. In this case the pain was mostly over the outside of the arm, also the arm was painful on deep pressure, making one think that there might be a neuritis present. The pain never leaves the arm. I would not be certain that the cervical ribs are the cause of it had I not tried to exclude every other cause."

At the conclusion of the discussion the election of officers for the ensuing year was held and resulted as follows without a ballot being taken:

Chairman—Dr. Clarence L. Starr.

Secretary—Dr. Malcolm H. Cameron.

Editor—Dr. Geo. Ewart Wilson.

GEO. EWART WILSON.

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## ONTARIO HEALTH OFFICERS' ASSOCIATION

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The Ontario Health Officers' Association held its third annual conference in Convocation Hall on Thursday and Friday, the 7th and 8th of May last, under the presidency of Dr. Charles J. Hastings, Medical Officer of Health for the City of Toronto. There were about 300 members present, and the programme of papers was a most interesting and instructive one.

On the first morning of the meeting papers were given by Dr. T. W. Vardon, of Galt, on the "Difficulties of the Medical Officer of Health in Town and Country," and by Dr. John W. S. McCullough, Chief Officer of Health, on the "Duties of the Medical Officer of Health in Ontario." These papers were productive of very free discussion.

A luncheon was given by the City of Toronto on the first day, when an address of welcome was given by His Worship the Mayor. This was replied to by Drs. McCullough, of Toronto, Brien, of

Essex, and Powers, of Rockland. Controller McCarthy and others also made short addresses.

At the second session the President's address was given by Dr. Hastings, indicating "The value of public health matters from the social and economic sides." Dr. H. W. Hill, of the Institute of Public Health, London, gave a very exhaustive paper on "The Transmission of Typhoid Fever," and Dr. J. A. Amyot, Director of Laboratories, gave a capital "Interpretation of a Sanitary Analysis of Well Water." The discussion upon these subjects was prolonged, many questions were asked, and we feel sure that the members derived great benefit from these papers.

In the evening the public meeting was held in Convocation Hall, where a series of moving pictures, illustrating public health questions, was given by the Provincial Board of Health. This was followed by a most lucid address upon "Therapeutic Vaccines and Sera," by Dr. J. G. Fitzgerald, Associate Professor of Hygiene, University of Toronto. The doctor described the difference between vaccines, serums and antitoxins, and incidentally pointed out the great value to the Province from the work of the Provincial Board of Health in placing the means of prevention of rabies and typhoid fever, as well as the treatment of diphtheria, within reach of the general public at greatly reduced prices. The doctor pointed out that in the treatment of diphtheria, especially in cities, the very poor and the very rich were unlikely to suffer from the non-use of antitoxin in proper doses, the poor being supplied by the Board of Health and the rich by their own ample means. In the case of those of the middle class, the price of antitoxin has been so great that adequate use of it has not heretofore been made. He pointed out that in the Isolation Hospital in Toronto the death rate from diphtheria is 6.45 per cent., while the rate throughout the city is 16 per cent.

The recent action of the Provincial Board of Health in making arrangements for a supply of this product has cut the price to about one-quarter of that heretofore in existence.

There was a large attendance at the public meeting and the audience was amply repaid.

On Friday morning two papers were given upon milk. The first, on "Milk Supply of Smaller Cities and Towns," by Dr. D. A. McKillop, Medical Health Officer of St. Thomas; the second, "How Toronto Controls Her Milk Supply," by Hoyes Lloyd, B.A.Sc., of Toronto. Both of these papers were most practical and were freely discussed.

The question of the fees paid the Medical Officers of Health in small towns and rural districts was brought up by Dr. W. E. Crain, of Crysler. It was pointed out that in the rural districts, especially, the Medical Officer of Health, although his tenure of office has been made secure under the Public Health Act, still continues to receive a very inadequate salary. The discussion was for the purpose of pointing out some way in which this injustice could be remedied. The subject provoked a very vehement discussion. Some members took the view that a minimum salary for these officers should be laid down by the Legislature; others took the view that the Medical Officer of Health's salary would be increased when he showed the public that he was earning more money than he now received. Finally a committee of seven members, one from each health district of the Province, was appointed to discuss this question and report upon it at the next meeting of the Association. The members of the committee are: Dr. J. W. Brien, of Essex; Dr. T. W. Vardon, of Galt; Dr. Emerson Bull, of Lambton Mills; Dr. T. W. G. McKay, of Oshawa; Dr. W. E. Crain, of Crysler; Dr. W. J. Cook, of Sudbury; Dr. C. N. Laurie, of Port Arthur.

The Question Drawer was opened by Drs. Amyot and McCullough, who gave answers to a large number of questions.

At the luncheon, given by the Provincial Board in the Parliament Buildings, the Rev. John McNeill, of Cooke's Church, delighted the audience by his humorous remarks.

In the afternoon of the second day there were two papers in reference to schools and school children; the first, on "Sanitation," by Dr. S. F. Millen, Medical Officer of Health, Woodslee, and the second on "Inspection of School Children for Efficiency," by Dr. W. E. Struthers, Chief Medical Inspector, Toronto Public Schools. Dr. Millen made some severe criticisms upon the sanitary conditions of schools throughout the Province, backing up his statements by facts and figures; while Dr. Struthers gave a full description of some of the means undertaken by the Board of Education of Toronto for the improvement of the physical conditions of the children in the Public Schools. These papers were ably discussed, the remarks of the various speakers showing the greatly increased interest taken in public health matters by the members of the Association.

A committee on papers for the next meeting of the Association was appointed, to consist of: Dr. D. B. Bentley, of Sarnia; Dr. A. E. Speers, of Burlington; Dr. T. A. Bertram, of Dundas; Dr. J. W. S. McCullough, of Toronto.

Dr. R. W. Hall, Medical Officer of Health, Chatham, and Dr. A. W. McPherson, Peterborough, were appointed President and Vice-President respectively.

This Association is now on a very substantial footing, the attendance of such a large number indicating the great interest taken in public health questions.

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### ONTARIO MEDICAL ASSOCIATION

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"In the official programme you have in your hands," said Dr. C. F. McGillivray, President of the Ontario Medical Association, in the annual address to the Association, "you will see that notice of motion has been given for the separation of this Association from the Canadian Medical Association. The Provincial Association of Ontario was the first to affiliate with the National Association, and all the other Provinces, with the exception of Quebec, have followed her good example. Is Ontario to be the first to separate, and will the other Provinces follow her bad example? President after President of yours in his annual address has urged the formation of city and county associations all over the Province, and that such associations become affiliated with the Provincial Association, just as the Provincial Associations are affiliated with the National, and further, that membership in the city and county associations would entitle to membership in the Provincial Association, just as membership in the Provincial Association would entitle to membership in the National. Thus the various Medical Associations of the whole Dominion would be cemented together by bonds of common interest. The whole scheme will be guillotined if this Association approves of the motion of separation, of which notice has been given. The whole question will be before you this afternoon for discussion. Let wise and sane counsels prevail. If permitted to make a suggestion, I would suggest that prudent representatives from both Associations be appointed, that they meet, adjust their differences, make a new agreement if deemed wise, and report to their several Associations for approval at the first possible opportunity. But, whatever you do, don't to-day approve of a motion of separation. Ever remember that the friends of the one are the friends of the other."

#### PRESIDENT'S ADVICE FRUITFUL.

The advice of the President evidently bore fruit. When the matter of the separation of the Ontario Medical Association from

the Canadian Medical Association, which was moved by Dr. A. H. Wright, was finally discussed, it was decided, upon the motion of Dr. Wallace, of Hamilton, seconded by Dr. N. A. Powell, of Toronto, that a committee should be appointed to consider the whole question and report to the Association at the next annual meeting.

Referring to the workmen's compensation bill, the President said the weak spot in the act was that no provision had been made for those who by their presence may save life or limb. "This omission to provide medical help for the injured is the weak spot of the act, and if the weak spot be not strengthened the whole act may prove unworkable."

Referring to the utterance of Sir James Whitney at the opening of the Toronto General Hospital, that "The Provincial Legislature has decided to appoint a Commission to investigate the whole subject of medical education and the practice of medicine in the Province," the President said the announcement was a satisfying one. "Whether or not," said the speaker, "such a Commission would be helpful in solving the vexed problem of what is absolutely essential in the way of medical education of the future practitioner is very doubtful, for the views of those physicians graduated by the College of Physicians and Surgeons and the views of the irregular practitioners are as far apart as the poles." He illustrated this by telling of two men, one a graduate of Queen's in arts and medicine, who, after six years, stands on the threshold of the practice of medicine, knowing his own limitations; the other, who has barely reached the fourth reader in the public school, and never got within hailing distance of the high school, went into life, married a nurse, is said to have taken a six months' course in chiropraxy by correspondence, then hung out his shingle in a Western town as a fully-fledged, duly-qualified chiropractor. "How long will this deplorable difference in the medical education or lack of medical education of the regular and irregular practitioner be allowed to continue?" asked the President. He suggested that the Commission should clearly declare—first, what is meant by the practice of medicine; second, what primary education is required before entering upon the study of medicine; third, what technical education is required after the study of medicine has been begun.

#### NEW HOSPITAL FOR INSANE.

The President, in his closing remarks, told of the new hospital for the insane which is in course of erection at Whitby, and of the advances made in such hospitals.

"Disturbed patients, restrained by drugs, locked doors and iron bars, all have disappeared. Restraint has disappeared, straight-jackets have been burned, and rugs are used for therapeutics only; bars are gone from the windows and locks from the doors. The people are losing their dread of these hospitals."

Dr. J. T. Fotheringham cited a case of lockjaw cured by carbolic acid, and other papers were given by Dr. C. D. Parfitt, Dr. P. Goldsmith, Dr. D. G. Wishart, Dr. B. O'Reilly, Dr. H. B. Anderson, Dr. J. S. N. Magwood. A paper on "Acute Intestinal Obstruction" was given by Dr. F. N. G. Starr, and a discussion was commenced by Dr. Rutherford of Stratford. Dr. N. A. Powell gave a paper upon "Some Complications in Hysterectomy for Fibroids," which was followed by a discussion.

#### COMMITTEE ON RELATIONS.

Upon the motion of Dr. Wallace, of Hamilton, seconded by Dr. N. A. Powell, of Toronto, the following resolution was passed:

"That a committee of nine be appointed to confer upon the future relations of the Ontario Medical Association and the Canadian Medical Association, and to suggest what changes might be necessary for mutual advantage."

The following comprise the committee appointed: Drs. Mullin and Wallace, Hamilton; Dr. Shillington, Ottawa; Dr. Wilson, Niagara Falls; Dr. McGregor, London; Drs. J. H. Hamilton, Gibb Wishart, Clarence Starr and H. B. Anderson, Toronto.

At the evening session Dr. Finney, of Johns Hopkins University, Baltimore, gave an address upon "The Cause of Failure in Operations for Cholelithiasis," and Dr. B. P. Watson an address in Obstetrics.

Dr. D. Gibb Wishart, of Toronto, was elected President of the Ontario Medical Association for the coming year at the second day's meeting. The Vice-Presidents in order are as follows: Dr. A. T. Shillington; Dr. J. T. I. Halliday, Peterboro; Dr. J. A. Marquis, Brant, and Dr. Francis Williams, Bracebridge. The Secretary, Dr. F. Arnold Clarkson, was re-elected, as was the Treasurer, Dr. J. H. Elliott. The following representatives were elected to the Canadian Medical Association: Drs. H. B. Anderson, A. T. Shillington and Ingersoll Olmstead.

Some discussion followed on the workmen's compensation bill, and it was finally decided to refer the matter to a committee, who will bring in a report.

The whole of the morning was devoted to clinical work, and there were many operations at the General, the Hospital for Sick Children, and demonstrations at the Pathological Building.

In the afternoon an address in medicine was given by Dr. E. Libman, of Mount Sinai Hospital, New York. In the evening a dinner was given at the Royal Canadian Yacht Club.

The next convention of the association will be held in Peterboro.

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**Acute Nephritis in Children.**—J. Renault and G. Siguret (*Annales de Med. et Chir. Infant.*) prescribe bed rest and exclusive milk diet. This is all that is needed in mild cases. When symptoms show the kidneys less permeable to salt and urea, diuresis is promoted and kidney congestion reduced by dry cupping in Petit's triangle, repeatedly applied: Venesection in severer cases and older children, leeches over each kidney or wet cupping in the lumbar region. Moist heat to the chest fifteen to twenty minutes, they say, relieves congestion of the kidneys. They advise against mustard pastes, etc., but have found the full bath at 38C. for fifteen minutes, repeated every three hours, useful, that is, where there are no heart contra-indications. A wet cloth should be kept on the head during the bath. Drugs are too much of a strain on the kidneys, and diuresis is best promoted by reducing the intake of salt and water. If not enough, a cold enema may be given every hour, and decoctions of onions, cherry stalks, or grape juice in small quantities. Calcium chloride may help—0.2 gm. a day for each year of age. Sugars, lactose and glucose may be given to promote elimination of nitrogen—10 to 50 gm. of first in the day—200 or 250 cc. of a 45 per 1,000 solution of the latter. Very little water should be allowed the first two days, then unsalted gruels, gradually adding a little milk, until nothing but milk is given—1.5 liter in twenty-four hours, always warm, sweetened or not. Gradually add other food without salt. A little salt may be allowed after a month, if no edema. Repose in bed, constant warmth and scrupulous disinfection of mouth, throat and nose every day, are the most important measures. Lumbar puncture may prove useful in ease of convulsions.

## THERAPEUTIC NOTES

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**Septicemia.**—A. C. Burnham (*Annals of Surgery*) believes vaccines are of benefit in many cases not overwhelmed at the onset by the severity of the infection. Clinically, they seem to benefit a majority of the cases. In early stages, antistreptococcic serum is of great value. It should be given in sufficient dosage during the period of invasion. This in the early stages, together with the autogenous vaccines, as soon as they can be prepared from blood cultures, is particularly beneficial. Neither are free from danger, and the dosage and intervals need to be carefully worked out. The open air treatment increases the resistance of the patient.

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**Chronic Osteoarthritis.**—P. W. Roberts (*Med. Rec.*) considers that the problem presented is to remove discernable foci of infection, then to improve local nutrition, correct such deformities as put undue strain on weight-bearing joints, and place painful parts at rest. Where there is a focus of infection present, it should be removed. For the future, vaccine treatment offers much which is hopeful. Roberts has followed as the essentials of treatment, the administration of glandular preparations, rest, a diet reducing the intake of calcium, and the use of the bipolar high frequency current.

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**Osteomalacia.**—D. Cavarzani (*Zentra. für Gyn.*) reports another case treated with epinephrin, which now makes a total of forty-six cases. He believes the combination of hypophysis extract with the epinephrin treatment might enhance the value of the latter. Lime in the food has something to do.

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**Appendicitis.**—P. Symms (*N. Y. M. J.*) says surgeons are agreed that operating on chronic or interval cases, in the early hours of acute cases, and in the very late stages, is a safe procedure. They are not agreed on the method and manner of operating. Neither are they agreed on the best time for operating in acute cases. Symms believes in immediate operation: in the first twenty-four hours. He does not believe that all cases are localized at first. He agrees with Ochsner that, from the very first, drugs, cathartics

and food should be withheld from these patients. A gangrenous, perforated, leaking appendix should be removed at the first possible moment. The method of operating is more important than the time, and prompt operation is safer than delay.

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**Acute Ileocolitis.**—Snyder (*Lancet—Clinic*) says it is imperative that the intestinal tract be cleaned out at once at the onset of the disease with castor oil by mouth and normal saline solution for irrigation of the bowel. The stomach should be washed if there is persistent and troublesome vomiting. This should be followed by broken doses of calomel until one-half to one grain is given, and still later by oil. It is not necessary to give this every day. If the toxemia seems of a grave nature, a hypodermoclysis of salt solution should be given without delay. All food should be stopped. In the majority of all cases the toxemia promptly subsides and the disease becomes a purely local one, then only demanding rest.

When the peristalsis continues the author uses opium more and more freely. He asserts that without its use the disease is often unnecessarily prolonged. When once the canal is free of toxic, decomposing and irritating food residue, opium should be called into quick service. Snyder is only afraid of opium when its use has been postponed until the resistance of the child is at a very low ebb or when it is used in insufficient doses. He then cites the case of a child one year old, seen in consultation, where the attending physician was giving three drops of paregoric every four hours. This dose would not control peristalsis in a flea suffering from a similar disease. When it is given, it should be given early and often. In addition to rest in bed, withholding food, and giving opiates, the surroundings should be made peaceful and quiet. The chamber should be avoided as far as possible—napkins being preferable. Water should be allowed freely, especially in the early part of the attack.

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**Puerperal Streptococcemia.**—Harrar (*Am. Jour. Obs.*) describes his technique of injection of magnesium sulphate, which has reduced the mortality in puerperal bacteriemia, especially in the most fatal form, streptococcemia. This injection is a 2 per cent. solution of chemically pure magnesium sulphate. It is made with freshly-prepared distilled water; filtered, sterilized in half-litre flasks in an autoclave. For the injection, a simplified salvarsan

apparatus is preferred. The ordinary infusion set will answer the purpose.

By direct puncture the same vein can be used a number of times, and it is important not to cut down on the vein. The vein should be made markedly prominent. Then there is no trouble in getting into it. A constricting rubber tube is placed temporarily about the arm just tight enough that a faint pulsation may be felt at the wrist. It should not be too tight. The needle should be inserted in an oblique direction. That one has entered the vein will be shown by the spurting of blood. Then the rubber tube of the reservoir with the solution is slipped over the shoulder of the needle. The reservoir should have not more than one foot elevation. About 400 cc. of the solution will run in in about 20 minutes with this elevation, that is much slower than the ordinary saline solution. If the patient feels faint a small hot whiskey, or aromatic spirits of ammonia is indicated. The injections should be repeated every second day, or every third, according to the temperature chart.

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**Pneumonia.**—Cruikshank (*N. Y. State J. of M.*) recalls Seibert's article, which quoted the experiences of a number of German physicians, and whom Seibert followed in treating pneumonia with much larger doses of camphor than hitherto employed. Seibert gave as much as 12 cc. of a 20 per cent. camphorated oil every twelve hours to adults suffering from pneumonia. To children he gave 6 cc. four years old or more. Out of thirty-six patients so treated all but one recovered. That one was 68 years, weighed 200 pounds, and had a fatty heart. The camphor is considered to aid in the destruction of the pneumococci in the blood stream.

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**Gangrene of Lungs.**—G. Guisez (*Bull. de l'Acad. de Med.*) injects from 20 to 25 cc. of medicated oil directly into the bronchus. In ten patients with gangrene of the lungs all recovered under this treatment. They had single or double gangrene, with fever and extreme prostration. The local processes healed up and the expectoration ceased. Others have confirmed these findings, but cases of tuberculosis are more refractory. Improvement, however, has been noted. Among other drugs used, Guisez employed a 5 or 10 per cent. solution of guaiacol in oil.

## Reviews

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*Infant Feeding.* By CLIFFORD G. GRULEE, A.M., M.D., Assistant Professor of Pediatrics at Rush Medical College, Chief of Pediatric Staff, Cook County Hospital. Second edition, thoroughly revised. Octavo of 314 pages, illustrated. Philadelphia and London: W. B. Saunders Company. 1914. Cloth, \$3.00 net. Sole Canadian agents, The J. F. Hartz Co., Ltd., Toronto.

The second edition of this excellent book is issued at an opportune time, for careful infant feeding in the summer months curtails infant mortality. Whatever scientific knowledge has been accumulated in the past two years on this subject is herein embodied. The original book was based on a course of lectures delivered by the author during three years' time at Rush Medical College.

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*Psychoanalysis: Its Theories and Practical Application.* By A. A. BRILL, Ph.B., M.D., Chief of Clinic of Psychiatry and Clinical Assistant in Neurology, Columbia University Medical School; Chief of the Neurological Department of the Bronx Hospital and Dispensary. Second edition, thoroughly revised. Octavo of 393 pages. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$3.00 net. Sole Canadian agents, The J. F. Hartz Co., Ltd., Toronto.

To this edition is added new illustrative material of a practical and instructive character. There are analyzed dreams, interesting cases and two new chapters. The book has been considerably enlarged and thoroughly revised. There is also a glossary of psychoanalytic and psychosexual terms. None of the essential principles of the original book has been modified.

# Dominion Medical Monthly

And Ontario Medical Journal

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No. 1

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## COMMENT FROM MONTH TO MONTH

The Annual Meeting of the Ontario Medical Association did not appear to be as good a success as in former years. Possibly the meeting of the Medical Officers of Health a week or two previously may have had something to do with it; possibly the serious dissatisfaction said to prevail amongst a considerable number of members with the arrangements of affiliation with the Canadian Medical Association. Or could it be the lack of unity in scattering the members in different directions at hospital clinics and operations? How barren of results seems a meeting where papers and discussions are pretty nearly eliminated!

The promised "storm" of the lay press aborted. The notice of motion to withdraw from affiliation with the national medical body was referred to a special committee: two members favorable thereto; two antagonist; five, disinterested. That this committee may be able to so arrange matters to the entire satisfaction and mutual benefit of the two associations will be the wish of all who have a keen and abiding faith in the welfare of both.

There was evidence, however, that the Ontario Medical Association is becoming more popular throughout the province. When three cities vie with one another in securing an annual meeting,

there is strong hope for the future of the Association. Hamilton, Ottawa and Peterborough would have taken the next annual meeting gladly. Peterborough carried the day and will get the meeting. Whilst no one has any objection to Peterborough, under the circumstances that Ottawa has always been a strong supporter of the Canadian Medical Association, it would have been wise to have selected the capital city; for it is the first time that this, one of the largest cities in the province, has invited the provincial body to convene there. It has many attractions and would have brought the eastern members of the profession into closer touch with the Association.

The Association is to be congratulated upon electing Dr. D. J. Gibb Wishart, Toronto, to the Presidency. He has had a large experience in medical society work and will make an excellent head for organization for next year's meeting.

Medical literature in Canada cannot, as yet, be said to have taken unto itself much form. True, we are a very young country, and are more concerned in developing that country and making homes than in creating a medical literature, or for that matter, a general literature. As it has been in general literature, so is it in medical literature: when an author gains a foothold, he hies him away to foreign lands.

It has been no unusual occurrence to see much of Canada's best medical literature, appearing in different forms, from the press of foreign countries. There seems to be a want of pride in creating a Canadian medical literature.

Foreign medical journals have given expression from time to time to their appreciation of Canadian medical journals. They have considered that, for our population and years, we have a very good medical press. Would that medical men on our native heath voiced a like appreciation!

Why do Canadians in the medical profession still continue to build up the medical literature of foreign countries? Do they not think it pre-eminently time they turned their attention to home production?

Fostering home production in medical literature will soon compel notice from foreign contemporaries.

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☐ **The Necessity of a Daily Medical Bulletin** issued under the authority of either some prominent medical association, university, or medical journal, as either the *B. M. J.* or the *Journal of the American Medical Association*, is each year becoming more and

more imperative. Something of this character must needs soon be established to offset and forestall and counteract the wilfully garbled or slovenly reported new discoveries of medical science in the daily press.

The importance to the physician of being authentically informed before, or even concurrently with the public, of new methods of treatment especially, is seen in the following case:

Some weeks ago a patient under treatment for asthma and bronchitis submitted a newspaper clipping to her physician and asked for similar treatment. The physician had knowledge of the treatment through the same medium, but not from the scientific press. Whether the treatment was applicable to a case of this character does not even appear in the abstract under "Gangrene of the Lungs" in this issue, but the fact that the patient had noticed it in the public press assures the medical press how widely these appetizing morsels of news are consumed by the people.

The foregoing is only an isolated case. Some day there must be a conference of physicians and editors on this matter of newspaper medicine, as the output of this class of news, compared with ten years ago, is becoming enormous.

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**Hypophysis Extract in Gynecology.** — F. Jayle (*Presse Médicale*) has given a systematic course of injections of a solution of desiccated and prepared beef hypophysis (posterior lobe) in fifty cases, and recites in detail the results in ten typical cases. In chronic afebrile gynecologic affections, the results were excellent. In young women with lesions of the ovaries, tubes or peritoneum, the results were most marked. Also in cases of climacteric hemorrhage and in congestions of the pelvis, good results were obtained. It can also effectively supplement conservative operations.

## Editorial Notes

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### A DOCTOR'S LIFE IN WESTERN CANADA

The country doctor at home—and, in fact, all members of the public health service—often have to do duty under difficulties, but they are as nothing compared with the experiences of men out in the great wild west of Canada. It was our privilege the other day to see a letter from one who has spent about fifteen months in an isolated station, and we think some account of his work will be of interest. The writer says:—"Often in the course of my practice in the country I have many weird and peculiar experiences, and I think some of my old professors and doctors unfamiliar with anything other than city work would look askance at some of the things I have to do, especially in my obstetrical work, of which I do a considerable amount, as the Westerners are very prolific. Many times I have to be nurse and doctor and get my own meals. Among the German and Russian settlers, who live in small shacks, sometimes only one room, I have some funny experiences. Some of the families cannot speak English, and my knowledge of German, etc., is very limited, and the motions I have to go through would make one think I was a Jew. However, they are very grateful as a rule, and one gets some almost helpless cases, as they try everything in the calendar first before sending for a doctor. I have some very long drives to make sometimes: will drive forty or fifty miles on one trip. Of course, during the summer it is not so unpleasant, as I drive a car, and the roads and trails, when they are good, are unsurpassed. But now, since winter has set in, with the mercury hanging around 30 degrees and 40 degrees below zero, and a blinding blizzard on, and the trails obscured, believe me when I say, it is awful. It seems that when the weather is roughest and the nights coldest and darkest, then do I have the most work to do."

The "night bell" at home is not a welcome sound to the tired practitioner after a hard day's work. Yet few get such experiences as the following:—"A few nights ago I was called out to a case in the country—a very cold night. The road was scarcely broken; I was feeling tired and anxious to go to bed. It was midnight when the call came in. I got my team and sleigh and got out to the place: luckily it was only a few miles. I had to remain there for two or three hours, leaving there about 4 a.m.

In the meantime a cold north-east wind arose and the air was full of frost and fog; small particles of frost seemed to make the air thick, and objects were indiscernible till they were right before you, then they seemed distorted beyond recognition. I had to cross a stretch of open prairie; the trail was almost impossible to negotiate, and I was facing this biting, stinging wind. I trusted to the horses, but they failed to keep the trail, and although I knew I wasn't far from town, yet I was completely lost. Nothing to guide me, the horses floundered around in the drifts until they pulled up in a barnyard some four miles out of my course. It was bitter cold, but we plodded on through the snow. I got out occasionally and lit matches looking for a trail. After ploughing through the drifts for over an hour we struck a trail and the horses were as delighted as I. I gave them their heads and it was with difficulty that I was able to restrain them from running away. They covered the distance in no time and came into the barn covered with frost and looking like ghosts. It was 35 degrees below zero. That was only one of many experiences I have had, which go to make up the life of a country doctor. I tell you, a man must be thoroughly imbued with the missionary spirit to practise medicine out here at times. Then, so often you are in doubt whether you will ever be paid for the trip." These are the men who are making life possible for emigrants to the West, and they, when the "boom" comes, will see to it that cities and houses are built upon sound sanitary principles.—*The Sanitary Record*.

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### CENTRES OF INFECTION

Those who like to study coincidences were recently given food for thought by Sir Thomas Oliver, Professor of Medicine at Durham University. Dealing principally with cancer, Sir Thomas referred to places and districts where this disease appeared to centre itself. As illustrating the theory he was suggesting, various circumstances were quoted. In Norway there is a village with eight hundred inhabitants, and until a few years ago, when eight cancer cases were reported, there was never known to be more than one case per year. The eight "grouped themselves round a particular sufferer." Another instance quoted was that of a French village of four hundred inhabitants. Here eleven deaths occurred in seven years, all being located in the same block of houses. Three years later there were seventeen cancer patients in these houses.

In another house in a different locality five deaths occurred from cancer in one house over a period of thirty years. All these patients belonged to different families. A list of 1,062 houses in Paris in which persons had died of malignant disease was drawn up, and a watch instituted. Already in twelve of them two successive cases of cancer have been noted. Another remarkable series of cases occurred in a short street, not one-twelfth of a mile long, in a small town. The houses in this street were entirely residential. In fifteen years (1893-1908) there died of malignant disease in this street nineteen persons and a dog. Several of the houses accounted for more than one case each. Sir Thomas comments: "As in nearly all the patients there was no hereditary history of the disease, the large number of deaths . . . has suggested that the matter is more than a coincidence." Doubtless many of our readers could multiply instances, not only with regard to cancer, but also other infectious diseases. There are houses, or blocks of houses, in many towns which are always regarded as danger zones, and, though they are repeatedly disinfected and cleansed, if epidemic comes that way, it is sure to find lodgment in these centres. Can anyone explain why?—*The Sanitary Record*.

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### HAY-FEVER

H. L. Ulrich, Minneapolis (*Journal A. M. A.*, April 18), says that hay-fever does not receive the attention it deserves from the practitioner, and there is a growing conviction that hay-fever not only is a local manifestation, but also involves reactions that bring it into the domain of constitutional disease. He notices the work of Dunbar, who established the fact that it is a pollen toxicosis, though his pollantin is losing favor as a cure. The active immunity induced by Noon and Freeman is mentioned as well as the demonstration by Clowes of the immune bodies of the hay-fever of this country. The clinical picture of the disease is reviewed as described by Bostock, whose description seems, according to Ulrich, to be rather mild in comparison to our autumnal catarrh. Ulrich quotes it, however, to call attention to the irregularity of the symptoms as compared with other infectious diseases which suggest to him more the hypersensibility of nerve and tissue groups to an irregular protein intoxication, the portal of entry of which is the nose. For two years he has been observing ragweed

because he finds that it is the only flowering plant which has a wind-borne pollen during the period between July 1 and September 15. Goldenrod is dismissed as a causative factor because its pollen is not wind-borne. The ragweed pollen is distributed when the sun warms up the air held in its oily envelope and its production is most prodigious. Ulrich is convinced that it is constantly in the air of the country and the city and estimates that 1 gm. contains 172,800,000 pollen grains. He has made extracts according to Dunbar's method and treated twelve cases with considerable success in giving relief from the symptoms. He is convinced from the manner of its production and its short duration that he was producing a refractory or inhibitory phase of hypersensitivity. The difficulty of proving this statement lies in the lack of experimental evidence, and the growing belief seems to exist that the anti stages of anaphylaxis are more difficult to produce and more temporary than is the case in infectious processes. Ulrich differs from Dunbar, Clowes and some others in believing it to be a protein toxin instead of a microbe. Two clinical studies suggest themselves from his point of view. "1. If it can be shown that the muscle-reactions in hay-fever patients are modified just as they are in spasmophilias we shall have added another link to the chain of evidence. 2. Recent reports of eosinophilia in animals sensitized to foreign proteins have led observers to think that an increase in oxyphils in the blood is an indication of this condition. If this can be shown to occur in hay-fever, another clinical test can be added to our list. As a matter of fact, Dr. George D. Head has verbally communicated to me that eosinophilia is a common occurrence in those cases giving asthmatic symptoms. In one of my cases under complete control I had the blood studied before and during the season. At no time did eosinophils go above 4.5 per cent." In conclusion, Ulrich says, there are three ways of meeting autumnal hay-fever: 1. The eradication of ragweed. 2. The removal of the patient from the ragweed environment. 3. The production of an anti-hypersensitivity. The first of these is more practicable than is commonly realized. Ragweed can be exterminated. The second method is available only to the favored few, while in the third he sees a glimmer of hope for the many thus afflicted.

## News Items

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Winnipeg is going to spend over \$300,000 in its health work during the fiscal year.

Dr. Max O. Klotz, President of the Ontario College of Physicians and Surgeons, has sailed for Europe.

Dr. R. B. Miller, of McGill is transferring his allegiance to the Western University, London, Ontario.

Dr. Harry Morrell, Regina, has been appointed Director of the Pathological Laboratory of the Regina General Hospital.

Dr. Howard T. Barnes, of McGill University, has been appointed Professor of Physics in the new University of British Columbia.

The Ontario County Medical Association has been organized with Dr. J. S. Mellow, Port Perry, President; Secretary-Treasurer, Dr. J. Moore, Brooklyn.

Mr. G. R. Mines, M.A., recently connected with the University of Toronto, has been appointed to the Morley Drake Chair of Physiology at McGill University.

John George Adami, Professor of Pathology, University of McGill, Montreal, has been awarded the Fothergill gold medal by the Medical Society of London, England, for 1914.

Montreal medical fraternity is feeling with keen regret the loss of Dr. A. E. Barlow in the terrible disaster of the Empress of Ireland. The splendid heroism and work of Dr. Grant is comforting.

The Canadian Medical Association meeting in St. John, N.B., should be remembered, July 7th to 10th. The President, Dr. Murray MacLaren, and the General Secretary, Dr. W. W. Francis, visited the Ontario Medical meeting in Toronto, in the interests of the former.

There will be a vacancy for a house surgeon in the service of Oto-Laryngology in the Toronto General Hospital on the first of September next. The service is for a period of eighteen months, with residence in hospital. Applicants must have had previous hospital experience as internes, and must have spent at least two years in private practice. This position offers unique facilities for beginning the study of the specialty. Applications accompanied by certificates, etc., should be made at once to Dr. D. J. Gibb Wishart, Chief of Service.

# Dominion Medical Monthly

And Ontario Medical Journal

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TORONTO, AUGUST, 1914

No. 2

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## Original Articles

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### PRESIDENTIAL ADDRESS, ONTARIO MEDICAL ASSOCIATION

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By C. J. MCGILLIVRAY, M.D., WHITBY, ONT.

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LADIES AND GENTLEMEN:—

My first duty is to thank you for the honor you have conferred upon me in electing me to preside over this meeting. I do not flatter myself that this honor came to me personally because of individual merit, or for services rendered this Association; I take it that the honor was conferred upon a representative of that great majority of our profession in this Province—the General Practitioners, and more particularly the country practitioners, in whose ranks I labor.

The voice of the country practitioner is not often heard in this assembly, if we make one notable exception in the person of our esteemed friend, Dr. T. S. Harrison, for here are met the lecturers and professors of our schools, the clinicians and teachers of our hospitals; the specialists in every branch and department of medicine and surgery; the rotund, well-groomed, prosperous-looking general practitioner of the city; the consultant of Provincial reputation, and "members of the Academy of Medicine"; so that naturally the country practitioner, overawed by this array of talent, is not very aggressive nor assertive in meetings such as this. But come out with him into his own little bailiwick, and learn if his voice is always silent there. There we still find occasionally the old-fashioned family physician, looked upon by half the countryside as the wisest of counsellors, the truest and most unselfish of friends, and who is oftentimes the social and intellectual beacon of his community. Whilst he is no expert in skiagraphy or the making of the Wassermann tests, in bacteriology or the microscopical

examination of the blood, yet he must have a good working knowledge of obstetrics, of gynecology, of internal medicine, of minor surgery, of therapeutics, of affections of the eye, nose and throat, of hygiene and the public health, and a special knowledge of pediatries, a subject too often overlooked in the schools. But what of his other duties? He must know how to draw a will. I have known him to act as judge of the prize babies at the fall fairs. He will be coroner, medical officer of health, examiner for a half-dozen life insurance companies, member of the Library Board, or more probably of the School Board. This is a very common duty. He will be a member of the Town or Township Council—This is another very common duty—or a member of the County Council or even of the Legislative Assembly. He is probably well known in social circles; and, odd though it may seem to some of you, well known in religious circles. He must be prepared at any time to take the platform and make a speech. Such are some of the activities—medical, social and municipal—of the country practitioner, who is so unobtrusive and non-aggressive in assemblies such as this. In the name of these men scattered all over the Province, I thank you for the honor conferred upon one of us by electing me to preside over this meeting.

I wish further to thank those who have labored so faithfully and given so much of their time and thought in preparation for this annual meeting. The programme is extensive and varied. It is the menu card of the annual feast prepared for you. I trust you have come here with appetites keen-edged for the discussion of things professional, old and new. For at this feast, as at all others, "*Famcs est optimum condimentum.*"

For a portion of this programme we are indebted to our medical brethren of the great neighboring Republic. To them I extend a warm welcome from this Association. We are indeed pleased to have them with us. Reciprocity in medical thought is, and always has been, the world over, one of the outstanding landmarks of the profession. This is one kind of reciprocity that we have no objection to in this country.

Without encroaching upon the field of the Committee on Necrology, I would like to recall the names of many of our brethren who have gone down "through the valley of the shadow" since our last meeting; but will content myself by mentioning only three—Dr. Daniel Clark, who for thirty years was Superintendent of the Queen Street Asylum, and was in my day the Lecturer in Mental Diseases—Dr. Fred. Fenton, the genial,

kindly, companionable friend, whose sad, untimely death cast such a gloom over us all. He was with us last year in London, and at that time promised a long and successful career in his chosen work—and John Caven—what shall I say of him? I knew him best as I knew him first, as the young and boyish-looking Lecturer in Pathology in the University of Toronto, twenty-five years ago. At that time I thought I myself knew something of teaching, as I had been engaged in that work for many years, but I was glad to sit at the feet of John Caven and learn afresh the art of making obscure things plain and difficult things easy for the student. I have heard it said, and I can quite believe it true, that he was the best teacher of pathology that the University has ever had. His intellect was ever keen and alert. His witty remarks, quick repartee, sharp criticisms and boundless enthusiasm endeared him to his students and made his subject—dry and tiresome as it is apt to be—the best-liked on the curriculum. He was a great teacher. I like to remember him as such.

I do not propose to enter into a detailed survey or review of the many advances made in medical or surgical treatment during the last two years. I could not, if I would. Many of you are more competent to do that than I. I am rather going to content myself with a few remarks on matters which have interested the profession during my term of office; to act the bystander, as it were, watching the trend of events, rather than as one "*in medias res*."

The annual meeting of the Medical Officers of Health and the annual meeting of this Association have this year both been held in the month of May. For the first-mentioned of these meetings, practitioners are brought to Toronto from every part of the Province, even from the remotest parts. Would it not be wise for the officers of the two societies to get together and arrange that, on any future occasion when both meetings are due to meet in Toronto, a united meeting be held; or, if that be found unwise, that at least the meetings be held in the same week. Such an arrangement would be of mutual advantage. We might then have at our annual meetings some whom we rarely see here.

Sir James Whitney, in his short address at the opening ceremonies of the new General Hospital, announced that "the Provincial Legislature had decided to appoint a Commission to investigate the whole subject of medical education and the practice of medicine in the Province." Two most important ques-

tions over which so many wordy battles have been fought, viz., medical education and what constitutes the practice of medicine. "The term medicine," said Sir James in his announcement, "will include all plans or means of alleviating or curing human defects, disorders, diseases, or wounds. The powers of the Commission will include the rights and by-laws of the College of Physicians and Surgeons, of all universities, colleges and schools, and the teaching therein; also, of the osteopaths, dentists, opticians, Christian scientist, and members of any other class or creed engaged in the practice of any branch of Medicine." This announcement of the Premier was a most satisfying one. Whether or not such a Commission would be helpful in solving the vexed problem of what is absolutely essential in the way of medical education of the future practitioner, is very doubtful; for the views of those physicians graduated by the College of Physicians and Surgeons and the view of the irregular practitioner are as far apart as the poles. Let me illustrate the difference by a concrete example of two boys from my own town. In small communities it is easy to follow the career of our boys. One, A. B., passed up through the High School, matriculated into Queen's University, took two years in Arts, then took the double course of Arts and Medicine, and graduated this year B.A. and M.D. At the end of his six years' university course, standing on the threshold of the practice of medicine, knowing his own limitations, and disagreeably conscious of how little he knows of the great field of medical knowledge which lies before him, much of which is still a veritable "*terra incognita*," he has resolved on another year of study, and has become an interne of one of the Montreal hospitals. The other young man, C. D., barely reached the fourth reader in the Public School, never got within hailing distance of the High School, went out into life, got married, married a nurse, is said to have taken a six months' course in chiropractic by correspondence, then hung out his shingle in one of our flourishing Western towns as a full-fledged, duly qualified chiropractor; not, as in the case of the former young man, conscious of his own limitations, but bold, aggressive, cocksure. The poet's maxim:

"A little learning is a dangerous thing;  
Drink deep, or taste not the Pierian spring,"

does not appeal to him; and, worst of all, he is recognized by the public as a regularly qualified practitioner. How long will

this deplorable difference in the medical education, or lack of medical education, of the regular and the irregular practitioner be allowed to continue? Down through the centuries the medical profession has claimed to be, and has prided itself in being, one of the learned professions, and this claim, down to the present time, has been universally recognized as a just claim. How long will the world continue to recognize us as one of the learned professions, if the door to our profession is wide open to all who have little or no primary education before the study of medicine is begun, and whose technical studies are practically negative? Let us keep our ideals high; let us strive to live up to the reputations that the centuries have given up. I believe that the Medical Council and the universities are and have been alert on the question of medical education, of what is required for the Entrance or Matriculation Examination, and of what is required of students after their special study of medicine begins. Year by year the matriculation examination has been getting harder and harder. Many advocate that it should be still further raised so as to correspond with the examination at the end of the second year "Arts" course of the University. And, year by year, the time for the technical study of medicine required of students is being prolonged, until the three-year course has been discontinued for the four-year course, and the four-year course for the five-year course. I repeat that I do not think that the Medical Council and the universities have been remiss in the matter of the education, primary and technical, of those whom they can control. What about those over whom they have no control—the Christian scientists, the osteopaths, the chiropractors, *et hoc omne genus*. There are those of us who, in our innocence, confidently thought that the Medical Council could control throughout the Province every form and variety that the practice of medicine could assume. But such confidence has long since vanished into thin air. Welcome the suggestion of Sir James Whitney. Let us have a Commission. Let us have it clearly declared:

1st.—What is meant by the practice of medicine.

2nd.—What primary education is required before entering upon the study of medicine.

3rd.—What technical education is required after the study of medicine has been begun.

The following quotation from one of the medical journals embodies my view of this question: "If Sir James Whitney establishes a Commission made up of men of the highest type,

who know the situation, and who are likely to back up the Medical Council and the universities in their endeavors to make medical education in Ontario worthy of this great Province, good will result. We would humbly suggest that there is but one way to bring about the desired result. That is, establish a high standard, and make all 'pathies' and faddists conform to this standard. It is a simple matter to answer the query: how many of the 'pathies' would remain if this rule were adopted? The eclectics have disappeared; the homeopaths are almost extinct, and the osteopaths, chiropractors, faith healers and other peculiar sects will cease to exist just as soon as they are forced to spend five years in study and pass examinations of the stringent kind. Under these conditions, very few will be anxious to remain under the shelter of the charlatan banners. Scientific medicine has no apologies to offer for its existence, and any government failing in its duty to uphold it will be guilty of interfering with the best interests of the public it serves."

It is very pleasant to comment upon the fact that, since the last meeting of this Association, the Dominion Medical Council, in accordance with the conditions of the Canada Medical Act, has been organized, and the first examination held. Dr. Roddick, whose courage, diplomacy and untiring perseverance brought this result about, must be more than gratified. It was in 1902 that the "Roddick Bill," or Canada Medical Act, was introduced into and passed by the Dominion House. The first and apparently insuperable difficulty that met this bill in its progress came from the Provinces. They, and not the Dominion House, had complete control of all matters pertaining to education, and they were unwilling to give up their prerogative. It took nine long years of continuous effort on the part of Dr. Roddick and those associated with him to persuade the Provinces that it was to their advantage to accept the Act. In 1911 the Act was amended and became operative when a so-called "enabling clause" had been passed by each of the Provinces. This was done in 1912, and the Canada Medical Act was in operation. The next step was to form the Dominion Medical Council in accordance with the terms of the bill. On November 7th, 1912, the members of the Council, representing every Province and every University and College in the Dominion, met in Ottawa for the purpose of organization. They very properly elected Dr. Roddick as their first President; formed Committees; laid their plans, and adjourned to meet

again in the same place in June, 1913. At the adjourned meeting they completed their organization; selected July 1st, 1913, as the first day of registration for practitioners holding Provincial diplomas for ten years or more, and appointed October 10 to 17, 1913, at Montreal, as the time and place for the first examination under the Act. It must have been particularly pleasing to Dr. Roddick to have been present at and to have witnessed, in his own well-loved University of McGill, and in his own city of Montreal, the holding of the first examination under the new Act.

Now that the Dominion Medical Council is an accomplished fact, it is merely a mild expression of the truth to say that only a big man would have tackled the job, and that only a big man could have brought it to a successful issue. If ever a man deserved the gratitude of the medical men of Canada, that man surely is Dr. T. G. Roddick. I trust that a resolution expressive of the appreciation of this Association for service done will be presented to Dr. Roddick before the sessions close.

In the official programme which you have in your hands, you will see that notice of motion has been given for the separation of this Association from the Canadian Medical Association. The Provincial Association of Ontario was the first to affiliate with the National Association, and all the other Provinces, with the exception of Quebec, have followed her good example. Is Ontario to be the first to separate? And will the other Provinces follow her bad example? President after President of yours, in his annual address, has urged the formation of city and county Associations all over the Province; (you are to have a report on that very question to-day); and that such Associations become affiliated with the Provincial Association, just as the Provincial Associations are affiliated with the National; and further, that membership in the city and county associations would entitle to membership in the Provincial Association, just as membership in the Provincial Association would entitle to membership in the National. Thus the various Medical Associations of the whole Dominion would be cemented together by bonds of common interest. Was the whole scheme, as laid before you by your former Presidents, a possibility, or was it merely a beautiful dream? The whole scheme will be guillotined, its head cut off, as it were, if this Association approves of the motion of separation of which notice has been given. We do not disagree with the advocates of separation who say that affiliation has worked in some respects to the disadvantage of the Association;

but surely there have been some compensating advantages. If our agreement with the National Association, made at the time of affiliation, has worked to our disadvantage: if we have grievances, as I believe we have; if we have suffered in the loss of our annual meetings of 1910 and 1913, and also in our financial arrangements, as claimed, surely these grievances can be remedied without recourse to such drastic measures as separation. The whole question will be before you this afternoon for discussion. Let wise and sane counsels prevail. If permitted to make a suggestion, I would suggest that prudent representatives from both Associations be appointed, that they meet, adjust their differences, make a new agreement if deemed wise, and report to their several associations for approval at the first possible opportunity. But whatever you do, don't to-day approve of a motion of separation. Ever remember that the friends of the one Association are the friends of the other.

By again referring to your programme, you will see that a resolution will be submitted to you re "Workman's Compensation Bill." At the recent session of the Provincial Legislature an Act was passed entitled "Laws relating to the liability of employers to make compensation to their employees." You are all familiar with the agitation which this proposed legislation caused among medical men. The members of the Medical Council and of the Academy of Medicine of Toronto were especially energetic in their opposition to the passing of the bill. We take this opportunity of thanking the members of these two societies for the opposition they put up, for the campaign of instruction as to the nature of the bill which they carried on, for the pressure they brought to bear upon the Government by argument and by appeal, in order to secure a proper recognition of the rights of the medical man and a proper guarantee of remuneration for services performed.

No one has any fault to find that such an Act should be on the statute books. There was an Act somewhat similar on the statute books before, viz., "The Employers' Compensation Act"; but in it the medical or surgical expenses became an important part of the claimant's account for his injuries; whereas, in the new Act no provision is made for the medical or surgical expenses. The basic principle of the whole Act is that neither the injured, nor his friends, nor the municipality shall bear the expenses due to the injury, and yet, *mirabile dictu*, the first thing the injured is called upon to do is to contract an expense for medical or surgical aid. To the one that has been injured

some things can be dispensed with; some things are luxuries; but the prompt and skilful attention of one or more members of the medical profession is a necessity—a first and absolute necessity. And yet no provision is made for these who, by their presence, may save life or limb. They are, however, left liable, as before, for suits for malpractice. This omission to provide medical help for the injured is the weak spot of the Act, and if the weak spot be not strengthened, the whole Act may prove unworkable.

The members of the Medical Council and of the Academy of Medicine in particular, and the profession in general, pointed out to the Legislature this weakness in the Act, suggested amendments which would strengthen it, directed their attention to similar Acts in various States to the south of us; but to no purpose. The Act went through as originally drafted. Amendments must surely come. Sir William Meredith, who drafted it, has said, "He does not claim that the Act is perfect, or that the last word has been said." That the last word has not been said is the view of many. Let us therefore persist in our endeavor to secure what we deem our due. I bespeak a cordial reception and support for the resolution about to be submitted.

I must not close without making some reference to the "Hospital for Insane," which is in the course of erection at Whitby.

Perhaps some of you will remember a very interesting article on "The Ontario Hospitals for Mental Diseases," read before the Canadian Medical Association in 1912 by Dr. Ryan, Superintendent of Rockwood Hospital, Kingston. I am taking the liberty of repeating some of the information contained in that article.

Prior to 1905, therapeutic measures, laboratory work, research work, and pathological work were almost unknown in the hospitals for the insane of the Province. Few records of patients, if any, were kept. The disturbed patients were restrained by drugs, locked doors and iron bars. The Government, through the Department of the Provincial Secretary, the Hon. W. J. Hanna, took advantage, in 1905, of the retirement of a number of the superintendents to bring about a radical change of method in connection with these hospitals. A commission was sent to Europe to examine the system used in Germany and other countries. Three times Commissions were sent to visit the most advanced state hospitals in the neighboring Republic. Fortified with information thus obtained, a conference of the superintendents, assembled for the purpose, adopted

a new system of classification and of treatment, which was at once put into operation in all the hospitals of the Province. Now, patients are carefully examined both as to their mental and physical condition; laboratories have been established; pathological experts appointed, dieticians engaged, complete records kept, and training schools for nurses established. Therapeutic measures are employed: hydrotherapy, electrotherapy, massage are in constant use. In a word, the inmates who require treatment are treated as patients in any other hospital are treated.

What are the results? Restraint disappeared, straight-jackets burned, drugs used for therapeutics only, bars gone from the windows and locks from the doors, the noise and turmoil changed to the calm quietness of the sick-room, the percentage of recoveries substantially increased, the people losing their dread of these hospitals, physicians sending in patients for treatment, voluntary patients received and treated—the “open door” to these hospitals established.

Dr. Ryan, in closing his address, paid a graceful tribute to the Provincial Secretary, as the man, above all others, who had made this change possible for us in Ontario.

Mr. Hanna must have been gratified at this open recognition and public acknowledgment of the good work done in and through his Department for the patients of the Hospitals of the Insane, and might have rested on his laurels and been content; but just about the time Dr. Ryan's address was delivered, new and still greater opportunities for service presented themselves, and the Provincial Secretary rose to the occasion. The Queen Street Asylum in Toronto had been sold; the old system of housing so many and such varied cases under the one roof had long been condemned. New quarters must be secured. This was Mr. Hanna's opportunity. If good results had been accomplished under the old conditions, still better results might be expected under the new. The Government can now pick out their own site, can erect a hospital in accordance with the very latest view as to best methods of classifying and housing the patients. A block of land of six hundred and forty acres, including several farms, was secured at Whitby. The site selected is an ideal spot on the lake front, just such a place as is chosen for a summer resort, with beautiful Lake Ontario to the south, the sheltered waters of Whitby Bay to the east, the Town of Whitby to the north. If environment means anything in the

treatment of the sick, what site could be more desirable than the one selected?

On this site the Government proposes to erect a Hospital Village. A good deal of the work has already been done; farm lands underdrained, roads made, walks laid, a railway spur from the Grand Trunk Railway put in, sewerage system installed, light and water system installed, seven cottages erected and almost ready to be occupied. A good start has been made. I cannot enlarge fully upon the plan of the Government as to what buildings are to be built, and how arranged, as their plans as yet are merely tentative and subject to many changes; but in general terms I might say that they propose erecting close to the lake front several hospitals for all acute cases, for all newly admitted cases, and for cases sent in by physicians for treatment, in which hospitals all patients requiring treatment will receive the care and attention that the most modern hospitals afford.

At some considerable distance away from the lake front a whole series of cottages are to be erected for patients not requiring medical treatment, but merely supervision of personal hygiene, the most easily managed patients, and those who will work. Off in another direction a number of cottages for private patients are to be built.

In all the buildings used as hospitals not only will liberal provision be made for the treatment of patients, but liberal provision will also be made for medical research work, for pathological research work, for laboratory work, and for general neurological study or investigation. In a word, the Government is resolved to make the "Whitby Hospital for the Insane" the most complete of its kind, so that when finished it will be a credit to the Province, the pride of her people, the best on the continent.

Many visitors, especially visitors interested in psychiatry, have already visited Whitby to see the site, and to learn something of what is proposed to be done. Let me, in his own words, give you the impression of one of these visitors—Dr. H. I. Kloff, Superintendent of the Hospital for the Insane at Allentown, Pa.—who, before leaving for home, being interviewed, said: "I came to Toronto for the purpose of inspecting the plans and site for the Hospital for Insane at Whitby. I regard the site as ideal, in many respects superior to any other similar institution in America. The plans, which have been prepared with great care, and after studying the latest improvements in build-

ing both in Europe and America, embrace all the best facilities for hospital treatment and custodial care of the insane. The arrangement of the different buildings and the site selected will certainly make the new institution a model which will be most creditable to Ontario. The great work being done in Ontario in your reformatory, industrial farms and hospitals is often commented on in the United States, but it requires a personal visit such as I have made to demonstrate what is being done in the Province."

Perhaps I have dwelt at too great length on this subject; but I have no apology to offer, for I have felt that whilst the work that Mr. Hanna and his department have done in prison reform and matters pertaining to the public health, in rescue work and in the establishment of shelters for neglected children is pretty well known, his work in connection with hospitals for the insane is not generally recognized.

*En passant* I should perhaps mention that much of the work at Whitby is being done by prison labor—a camp of one hundred and twenty to one hundred and fifty men from the Central Prison being always present. The whole question of the prison farm and prison labor is an intensely interesting one, one that has come much under my notice during the last two years; but I shall add nothing further on the subject, as we hope, before the sessions are over, to hear from Mr. Hanna himself on that question.

In conclusion, I thank you for your attentive hearing, and trust that you will find all the sessions of this annual meeting both enjoyable and profitable.

**SURGICAL LIMITATIONS IN DIABETES \***

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Until comparatively recently it was the general rule to avoid surgical operations altogether in cases of diabetes, owing to the belief that diabetic patients were especially liable to suppuration in operation wounds, and they were therefore not infrequently allowed to die from acute abdominal emergencies without any attempt being made to relieve the condition by surgical interference. The significance of surgery in connection with diabetes has been so little recognized that Naunyn, in his most recent work on Diabetes,<sup>1</sup> devotes only a few paragraphs to the consideration of that branch of the subject.

Owing to the recent advances in the knowledge of the disturbances of metabolism which characterize diabetes, and the great improvements in surgical technique and asepsis, the prognosis of operation in this condition has very materially improved, and many writers, including Israel,<sup>2</sup> König,<sup>3</sup> Kausch,<sup>4</sup> Mayo Robson,<sup>5</sup> Bland Sutton,<sup>6</sup> Umber,<sup>7</sup> and Manges,<sup>8</sup> have reported good results from operation, sometimes even major operations, and in very severe cases of diabetes.

Umber thinks that under the present conditions the reluctance of many surgeons to operate in diabetes is no longer justifiable, and he even goes so far as to express the opinion that the indications for surgical interference are practically identical in diabetic and non-diabetic subjects. Most of the other authorities, however, including Mayo Robson and Kausch, with whose opinion I am in accord, recommend operation in diabetes only for conditions which threaten the safety of life or impairment of function, and state that it should then be performed with the most careful and special precautions, both in the preliminary preparation of the patient and in the endeavor to secure thorough asepsis at the operation. Under such conditions they believe that in a large proportion of cases in which the urine contains sugar, even in considerable quantity, surgical operation may be safely and successfully performed, and that

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\*Read before the Academy of Medicine, Toronto, April 7, 1914.

in a certain number of cases it may even result in temporary or permanent improvement in the diabetes.

*Narcosis in Diabetic Patients.*—It cannot be denied that the presence of diabetes increases the danger of a surgical operation to a certain extent, but this danger may largely be minimized by special precautions in regard to anesthesia, and by rendering the urine of the patient free from sugar by a course of antidiabetic treatment previous to operation if the nature of the case allows of sufficient delay for this.

The chief immediate risk in operation is the supervention of diabetic coma on narcosis, and in some cases it is impossible to prevent this. It is generally recognized that true diabetic coma is due to an intoxication of the organism by oxybutyric acid. Kausch therefore recommends that alkali should be administered before anesthetization, and that the diabetic organism should be saturated with it, with the object of neutralizing the acid intoxication. If signs of coma appear energetic sodium treatment should be undertaken, per os, per anum, subcutaneously and intravenously. Even in cases in which the diabetes is in an early stage the coma cannot be ignored, as is shown by three cases reported by Futh.<sup>9</sup> In all these three cases diabetes was in a very early stage, or was not suspected before the performance of operation, and fatal diabetic coma appeared after an extensive laparotomy.

Most of the writers on the subject are agreed that local anesthesia is preferable to general anesthesia, and that if local anesthesia is not sufficient ether should be employed in preference to chloroform, which has much more frequently been assumed to be responsible for diabetic coma. Kausch states that, judging from his experience at the Breslau Clinic, increase of acetonuria and glycosuria is much more common after chloroform than after ether, and Becker<sup>10</sup> found that severe acetonuria was constant after chloroform narcosis in diabetes. Lépine<sup>11</sup> thinks that the remote results of chloroform intoxication are more to be dreaded than its immediate results, and that it is likely to render existing acetonuria much more severe.

Kausch, who has had considerable experience in these cases, recommends that if it is necessary to give a general anesthetic it should invariably be given in the early morning, in order not to prolong unnecessarily the period of physiological hunger, as it is a well known fact that this leads to acetonuria, or tends to increase it if already present. If possible the urine should

be rendered free from sugar before the narcosis is undertaken, and sodium bicarbonate should be administered. The quantity of the anesthetic and the duration of narcosis should be reduced as much as possible. Several consecutive narcoses at short intervals should be avoided, owing to the fact that in diabetes the organs are less capable of resisting narcotics, and should therefore be allowed time to recover from the shock of the previous narcosis.

Umber recommends intravenous injections of sodium bicarbonate in incipient coma, but does not think they are advisable as a prophylactic before operation, owing to the risk of producing thrombosis of the veins of the arm. Körte<sup>12</sup> states that if coma has already appeared sodium bicarbonate is the only means of saving the patient, but is successful in only a very small proportion of cases. He thinks this may be partially due to the fact that the treatment is usually deferred until a late stage of the coma, and that the alkali is given in insufficient doses. He gives doses of 50, 100, or even 150 g. in the course of twenty-four hours.

Schwarz of Prague<sup>13</sup> has recently reported good results from a combination of the acid derivatives of carbohydrates and sodium bicarbonate. It is given in a dose of about 70 g. in a half litre of water, which has been previously neutralized by the addition of sodium bicarbonate, and in two of the cases in which he has used it incipient coma has disappeared. The rationale of the method consists in the fact that the carbohydrate is used and burnt up by the diabetic organism, and we thus get the same effect as from the administration of carbohydrates in a healthy individual.

*Emergency Operations in Diabetes.*—Umber is of the opinion that at the present day the dread of surgery in diabetes, which is still felt by many physicians and surgeons, is no longer justifiable, and that while the presence of diabetes is still a serious drawback from a surgical point of view, it should not by any means be regarded as by any means an absolute contra-indication to surgery. Operations for conditions which do not represent a danger to life, or the impairment of important functions, such as those for deformities or benign growths, should as a rule not be undertaken, but there should on the other hand be no hesitation in proceeding with urgent or emergency operations, such as those for acute appendicitis, acute intestinal obstruction, strangulated hernia, or injuries. Umber reports two cases in which he operated for acute appendicitis

with good results, the progress of convalescence being practically the same as in non-diabetic cases.

If the condition for which operation is indicated allows of a few days' delay it is advisable to carry out anti-diabetic treatment with the object of inducing aglycosuria, and thus increasing the tendency to healing. If the acute nature of the condition, such as acute intestinal obstruction or appendicitis, does not permit of such a delay, the operation should be carried out immediately, and subsequent dietetic treatment relied upon for the production of aglycosuria as rapidly as possible.

The most difficult cases to deal with are those with acidosis, as slight trauma under such circumstances not infrequently leads to fatal results. In cases with increasing acidosis the oat-meal cure before operation is especially indicated, and Umber recommends that at the same time the patient should be given doses of 0.1 extract of opium, which tends to relieve both glycosuria and acidosis. In cases of severe acidosis, if operation cannot be delayed, he recommends the administration of alkali per os and per rectum, together with the intravenous injection of opium. He believes that while the importance of acidosis cannot be denied, it has to a certain extent been exaggerated, and that, if the diacetic and oxybutyric tests have a negative result, operation should be proceeded with, even if the acetone reactions are very intense. If the proportion of ammonium nitrogen to the total amount of nitrogen excreted in the urine remains within normal limits the danger from severe acidosis or the supervention of diabetic coma after operation is not sufficiently great to prevent the performance of a necessary operation.

*Furunculosis and Carbuncle in Diabetes.*—In the setting up of these conditions, as well as of diabetic gangrene, the condition of the vessels in the region affected is of the utmost importance, and Umber states that in every case of diabetic gangrene which he has examined by the X-rays there has been a typical sclerosis of the arteries supplying the diseased area. Arteriosclerosis is therefore a serious complication which has to be considered in these cases.

In furunculosis associated with slight diabetes Pilcher<sup>14</sup> recommends that incision should if possible be avoided. Endeavors should be made to produce aglycosuria, moist dressings applied to the lesion, and finally Bier's hyperemic treatment.

Pilcher considers the prognosis exceedingly grave in cases of carbuncle, associated with arteriosclerosis and diabetes, and

in his experience the condition has invariably terminated in death after a short illness. In his opinion the fatal result in these cases is due to a combination of diabetic toxemia and general septicemia.

*Diabetic Gangrene.*—Umber is of opinion that the primary cause of diabetic gangrene is sclerotic endarteritis, resulting in a deficient vascular supply, and his experience indicates that in some cases the presence of diabetes may be entirely overlooked, owing to the absence of glycosuria. Such cases should not be described as diabetic gangrene, but as arteriosclerotic gangrene in diabetic patients. The onset of gangrene, even in cases of slight diabetes, may be accompanied by disturbance of metabolism and signs of acidosis, these symptoms sometimes retrogressing on removal of the gangrenous focus. König<sup>15</sup> reports two instances of this sequence of events. These cases were not cases of severe diabetes which, by the operation, were transformed into slight diabetes, but cases of slight diabetes which reverted to their original character after removal of the gangrenous focus, which was disturbing internal metabolism.

Until comparatively recently operation for diabetic gangrene was expected to result in diabetic coma and death within a short period, but the perfecting of the technique during the last two or three decades, and above all the careful preparation of the patient for operation, have greatly improved the results, and Ochsner<sup>16</sup> believes that in diabetic amputations the wounds as a rule heal by first intention.

Most of the authorities on the subject, including Bouchardat,<sup>17</sup> Umber, Pilcher and Lépine, recommend that whenever possible operation should be delayed, in order to allow time for the improvement of the general condition of the patient and for the production of aglycosuria by general antidiabetic treatment. This is of special importance in the presence of arteriosclerosis, in view of the possibility that with improvement of the general constitutional condition the case may be placed in a more favorable position as regards the prognosis of operation. But whilst it is no doubt advisable, in the presence of severe diabetes, to postpone operation as long as possible, it should at the same time not be forgotten that in not a few cases constitutional conditions, which have previously been uninfluenced by treatment, quickly respond to it after removal of the gangrenous lesion.

Lépine recommends that during this waiting period air douches, at a temperature of 300 degrees, should be used daily,

and states that under the influence of this treatment in favorable cases the ichorous fluid drains away, the tissue gradually mummifies, and that if the line of demarcation becomes well marked and septicemia is disappearing one may then operate under comparatively favorable conditions.

In subacute gangrenous phlegmon such conservative treatment is not suitable, and operation should be performed without delay, amputation being performed at a very high level. Operation should also not be delayed if there is no improvement in the general and local condition under general anti-diabetic treatment and local antiseptics, and if the extension of gangrene and sepsis and pain indicate the urgency of surgical intervention.

As regards the technique of operation care should be taken to avoid any interference with circulation. With this object no preliminary Esmarch bandages should be used, the flaps should be made from within outwards, and sufficiently thick and long to fall back without tension. Pileher is of opinion that with scrupulous precautions one may expect about 50 per cent. of successful results in diabetic gangrene of the extremities.

Amputation should of course be done in healthy tissues, and it is advisable that it should be done sufficiently high up, in order to avoid the necessity of a subsequent operation for recurrent gangrene above the wound. Heidenhain<sup>18</sup> reports the results of operation in eleven cases of senile diabetic gangrene in Küster's Clinic. In all these cases Küster, who commenced with a comparatively low amputation, was afterwards obliged to operate higher up for recurrent gangrene, and finally, in some cases in which the gangrene involved the dorsum or sole of the foot, he had to amputate above the knee-joint. Recovery followed in six of the eleven cases.

Unger reports cases in which acidosis disappeared after operation for gangrene. In one of these the diabetes had been present for twenty years. In another case, in which the diabetes was very severe, coma was averted by anti-diabetic treatment, and for two years after an operation for gangrene the patient was able to perform his ordinary duties as a military officer. Death from diabetes did not occur until six years later.

*Operation for Trauma in Diabetes.*—It has not yet been definitely established that the theory, which was first advanced by Verneuil,<sup>19</sup> that bones do not unite well after fractures in diabetes, is correct, but it seems only natural to assume that the

regenerative capacity of the tissues of the body is lessened to a certain degree.

Kausch has made a special study of fractures in diabetes, and has collected eleven cases of traumatic glycosuria, nine of which were fractures. Of these nine cases three were fractures of the lower leg, one a fracture of the patella, three compound fractures of the toe, and two fractures of the pelvis. In one there was contusion of the lower leg, and in one of the neck of the femur. It has been frequently stated that traumatic diabetes is very often associated with severe polyuria and slight glycosuria, but in all these cases the first urine evacuated after the trauma contained sugar up to one per cent., and in no single one of them was there any further symptom of diabetes.

In 1886 R  dard<sup>20</sup> reported seven cases of fracture, which developed what he describes as ephemeral glycosuria after the trauma. H  dke<sup>21</sup> found alimentary glycosuria in fifteen of twenty-five cases of recent fracture at the Dantzig Clinic.

Kausch does not believe that the inference that this ephemeral glycosuria is of no significance to the surgeon is correct, and thinks that, in spite of the few reports in literature, cases of the kind are by no means rare, and that there is a possibility that in them we are dealing with slight or so-called latent diabetes, which as the result of the trauma or operation becomes for the time being more severe. These results indicate that individuals who, as regards sugar metabolism, we must assume to be perfectly normal, may excrete sugar as a consequence of trauma or operation, and thus favor the assumption that there is a definite connection between trauma and glycosuria. There are as far as we know no positive signs by which we can determine whether true diabetes or merely ephemeral glycosuria is present, and he therefore recommends that in doubtful cases if possible the surgeon should wait for further developments. If the urgency of a particular case renders this conservative course impracticable he should proceed as if diabetes was present, and take all the special precautions, more especially in relation to narcosis, which are considered advisable when performing operations on diabetic subjects.

*Operations on the Pancreas in Diabetes.*—A definite connection of the pancreatic secretion with carbohydrate metabolism was first established by Mering and Minkowski<sup>22</sup> in 1889, and Mayo Robson believes that from 70 to 80 per cent. of cases of diabetes are of pancreatic origin.

Whilst Mayo Robson is of opinion that a very considerable proportion of cases of glycosuria are due to disease of the pancreas, cancer of the pancreas is very rarely associated with diabetes, and in more than a hundred cases of pancreatic cancer he has observed it in only three per cent. He reports cases in which glycosuria disappeared after operations, including the removal of cancer of the head of the pancreas, secondary carcinoma of the biliary ducts, biliary calculi associated with enlargement of the pancreas, duodenal ulcer associated with cholangitis and interstitial pancreatitis, and catarrhal pancreatitis associated with gall-stones.

Körte reports a case in which the urine contained sugar to the amount of 6.9 per cent. After the removal of a large necrotic sequestrum from the pancreas it remained free from sugar for nearly two years, when there was a recurrence, which again subsided under anti-diabetic treatment. The patient ultimately died of diabetic coma six years later.

Mayo Robson points out that many cases of pancreatic origin may be benefited or even cured by operation, and he believes that in some instances surgical treatment at an early stage may prevent the onset of diabetes. He therefore emphasizes the importance of considering individual cases of diabetes from the point of view of their etiology.

On the other hand Ochsner does not consider that it has been by any means proved that a large proportion of cases of diabetes are due to disease of the pancreas. He has had the opportunity of operating on a large number of cases of pancreatitis, but only very few of the patients had also suffered from diabetes. Whilst he acknowledges that it is undoubtedly true that there is danger from pressure on the islands of Langerhans in pancreatitis, he does not think that the autopsies which have been made in cases of this nature are yet sufficient to prove that this pressure causes diabetes.

*Operations for Tumor in Diabetes.*—Neoplasma are very rare in diabetes, but they do occur in exceptional cases. In 1888 Tuffier<sup>23</sup> collected 54 cases from the literature, 36 being malignant tumors, 13 benign growths, and 5 indefinite. Boas<sup>24</sup> found diabetes in only 12 of 366 cases of intestinal carcinoma, and Naunyn, in 777 cases of diabetes, found 1 case of carcinoma of the cheek, 2 of carcinoma of the stomach, and in addition 7 cases in which carcinoma of the stomach or liver was diagnosed, but in which the diagnosis was not confirmed by section.

Landau<sup>25</sup> and Hoffa<sup>26</sup> report two cases of operation for removal of pelvic carcinoma. The patients, who had previously suffered from diabetes, had been free from symptoms for some years, but glycosuria developed immediately after the operation, resulting in death from diabetic coma.

More recent observations, however, appear to indicate that the removal of tumors, more especially of those involving the genito-urinary tract, sometimes lead to the disappearance of glycosuria, even in cases of severe diabetes. Henkel<sup>27</sup> concludes, as the result of his own experience, that it is practically certain that the formation of tumors in the female genital organs may induce glycosuria, which is cured on the removal of the cause.

Bland Sutton thinks that as a rule it is advisable to abstain from hysterectomy in diabetic subjects, as he has gathered from the statistics that such operations are attended by a high mortality, but that in exceptional instances the operation is indicated. He reports two cases, in women of 43 and 69 years of age respectively, in which the urine contained sugar in considerable amount. Subtotal hysterectomy was performed, in one case for a large fibroid, and in the other for fibroid and suspected cancer of the uterus. At the time when the cases were reported both patients were alive and well, one three years and the other eight years after the operation. Joslin<sup>28</sup> reports a case of severe diabetes and fibro-myoma of the uterus, in which the sugar disappeared from the urine on removal of the growth. Miller<sup>29</sup> reports a similar case of severe diabetes and cancer of the uterus. When the case was reported, several months after removal of the cancer, the urine still remained absolutely free from sugar.

Manges<sup>30</sup> has recently reported two cases of severe diabetes and prostatic disease. In one of these cases, in which there was a family history of diabetes, removal of the prostate resulted in great improvement in the diabetes and disappearance of acidosis, the diabetes recurring with a fatal result one and a half years later. In the other case, in which the diabetes was of long standing, there was complete recovery and rapid disappearance of sugar, which did not return in spite of a liberal diet. The patient subsequently died from pus kidney.

In all of these four cases the disappearance of sugar was sudden and complete after the removal of the tumors, although in one of them there was a bad family history of diabetes.

The cases of this nature which have been reported up to the present are too few in number to allow of any conclusion as to the cause of the disappearance of sugar after operation. Manges suggests, as the most probable explanation, that removal of the tumor may remove some nervous or toxic irritating agent, which in some way which is at present unknown to us interferes with carbohydrate metabolism.

In conclusion I should like to refer to a few cases which have come under my own observation, in which I have considered it desirable to give the patients the benefit of surgical treatment in spite of the complicating diabetes.

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**Prostatectomy.**—J. L. Thomas (*The Lancet*) describes his new combined method of prostatectomy. Under spinal anesthesia, an incision is made into the bladder after it is emptied of fetid urine. Then Thomas pours about one ounce of pure tincture of iodine into the bladder, and injects tincture of iodine through the meatus along the urethra into the prostatic bed. After this he drains perineally. During the whole of the performance the patient lies on his back. The perineal opening is made on the point of the forceps passed transvesically from above, the legs being simply spread apart. Enucleation is then done by the forefinger in the bladder, but frequently Thomas passes the other forefinger into the perineal opening to assist the enucleation from below. He claims it is of great importance to pour the tincture of iodine into the bladder, as this flows into every hole and corner of every fresh raw surface. A cleaner urethra is also obtained by the injection of the iodine, as well as flooding the freshly-made prostatic bed.

## INSOLATION—ITS PROPHYLAXIS AND TREATMENT

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BY PAUL G. WOOLLEY, M.D., CINCINNATI.

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The treatment of insolation (*N. Y. M. J.*), has been based upon the fact that in this condition too much heat has been produced in the body, and too little heat given off—the disease being due entirely to heat retention. Thus the whole treatment has been to reduce the temperature of the body by the application of cold, and by encouraging superficial evaporation. Little account has been taken of the abnormal substances being continuously produced because of the increased temperature, and that these are not being eliminated with sufficient rapidity.

The cases of heat exhaustion and sunstroke call for little classification other than mild, severe and hyperacute, as the causes are all obviously the same.

Victims falling where there are no therapeutic remedies at hand must be conveyed to some place where ice can be obtained and baths given.

The two main objects in view in treating any form of insolation are to reduce the heat content of the body and bring about elimination of its toxic contents. When these are done time will attend to the hemorrhages, the destruction of tissue, the fatty degeneration and the rest. But there may remain residual symptoms, such as tendency to relapses, headaches, partial loss of memory, loss of sustained attention, polyuria, even to glycosuria.

Treatment of insolation, therefore, should combine refrigeration with elimination, active enough to produce good results without embarrassing organs, such as the heart, which are already damaged. To accomplish the former the practice is to give ice-cold packs or baths. To compass the latter, recourse is commonly had to stimulants. This latter seems not the best, except as a last resort. Ice-packs or baths should not be continued for more than a few minutes at a time and should be discontinued when the rectal temperature has reached 104°F.

To replace the water lost to the body before the attack, and to increase the elimination, there is no better method than the infusion of saline solutions. Such solutions should be alkaline if it is true that the oxygen content of the body is low and the acid

content high. For rectal use the solution should be prepared as follows: Sodium chloride, thirty grams; sodium carbonate (crystallized) twenty grams; water, one thousand c.c. For intravenous use the alkaline solution should be very carefully prepared. The carbonate cannot be boiled. The salt solution should therefore be made and sterilized, after which the crystals of carbonate may be added. If the crystallized sodium carbonate cannot be obtained and use must be made of the ordinary dried form the amount indicated above must be divided by three.

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## PLACENTA PREVIA

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BY SIR J. HALLIDAY CROOM, M.D., F.R.C.P., Edin.,  
Professor of Midwifery, University of Edinburgh.

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In a clinical lecture (*Medical Press and Circular*), delivered at the Royal Maternity Hospital, Edinburgh, Professor Croom discussed the practical management of placenta previa. It is a complication involving a maternal mortality of eight per cent., and a fetal mortality of over seventy per cent. Each case must be treated on its merits.

Special attention is drawn to the lower uterine segment which develops only during pregnancy, being completely formed in the process of labor. It is difficult to determine whether it is uterine or cervical, or both. Whatever its origin, it is a phenomenon of labor, and therefore a knowledge of it is requisite to the successful treatment of placenta previa. Its upper limit is Bandl's ring; posteriorly it is in relation to the rectum; anteriorly to the bladder and urethra; latterly to the broad ligaments, with the ovaries and tubes. On its anterior surface the broad ligament is reflected, loosely attached. It is looser posteriorly, the muscular tissue, imperfectly and loosely arranged, mostly longitudinal, running from the cervix up in a slightly curved manner. It is the entire absence of circular fibres which prevents the closure of vessels. The muscular layer thin, it gradually gets thinner with retraction and contraction of the upper part of the uterus, still further thinning out as the head descends. When the placenta is situated in this region it interferes very materially with pregnancy and labor;

also with the accommodation of the child; also with contraction of the uterus, causing inertia and bleeding.

As the os dilates, the placental area gets too large for the placenta, the vessels are ruptured, and exposure of the sinuses takes place. Thus bleeding goes on, as there are no circular muscular fibres to contract the vessels.

The two outstanding risks are hemorrhage and sepsis. If they could be eliminated placenta previa would be a simple complication.

As to the method of dealing with a placenta previa, there is nothing in its nature absolutely fatal, but these two essentials must be kept in mind.

Three principles are laid down: 1. The saving of blood, no matter how little, at every possible juncture; 2. Careful anti-septic manipulations; 3. The careful selection of a method of delivery suitable to each individual case.

With few exceptions, once a placenta previa is diagnosed, the sooner the uterus is emptied the better. Temporizing is only advisable where the hemorrhage is very slight; or in a hospital perhaps. There is a great advantage in treating these cases in a well-appointed hospital.

Where the placenta is marginal and can be treated by rupture of the membranes and subsequent delivery by forceps is not the class of cases dealt with, but rather those cases where there has been very profuse hemorrhage, where the cervix is either closed or admits, perhaps, two fingers, and where the placenta is flush with or overlaps the os internum. The best thing to do here is to pack the vagina. For this, four distinct advances can be claimed: 1. It stops hemorrhage; 2. It gains time—to; 3. Stimulate and nourish patient; 4. If need be, to send her to hospital.

Everything depends on the way the packing is managed. This is best and most satisfactorily done under an anesthetic—packing with wet sterilized cotton wool, with speculum and dressing forceps, until the canal has been completely filled. The other essentials are an abdominal binder and a firm, tight perineal bandage. No packing is possible without an opiate. The pain is unendurable without it, and furthers the dilatation.

When this has been done the blood has been conserved. Croom finds in many instances with the plug in situ, and the woman comparatively out of danger, external version can be done with advantage and comparative ease.

Now when this version has been performed and the patient's general condition improved, the packing is withdrawn and the

condition of the cervix ascertained with the gloved hand. As cervical tears are responsible for a great many deaths, and as it is better to avoid artificial dilatation and accouchement forcé, with the gloved hand a foot can be pulled down slowly. As the leg descends it has three effects: 1. It stops hemorrhage; 2. Dilates the cervix; 3. Stimulates the uterus. When the breech has entered the cervix it is well to let it stop there; only maintaining such traction as will prevent hemorrhage. How long has the breech to remain there? Until it is delivered spontaneously, which, of course, involves usually the death of the child. If, for any reason the child requires to be delivered quickly, then it should be accomplished partly by traction and partly by suprapubic pressure.

Now if, when the packing is removed, the cervix is not dilated, then a reapplication of the pack should be made. When this has been removed for the second time there may be sufficient dilatation of cervix to allow of the manipulations above described. If artificial dilation be required, the safest method is Harris' method, by means of the fingers. If a living child is specially desired recourse can be had to the Champetier de Ribes bag. It has these disadvantages: It is not always at hand, except in the hospital; from want of constant use in private practice, it gets hard and brittle, and is then easily ruptured; it has an obvious means of infection. The method of delivery in the half-breech is both safer and easier than the bag.

A very large number of cases of low attachment of the placenta can be dealt with simply by rupture of the membranes, and either spontaneous delivery or delivery by means of forceps.

Even after the child has been successfully delivered, the placenta requires to be artificially delivered. This involves a very considerable post-partum hemorrhage, and it is probably the case that more women succumb to post-partum hemorrhage than the hemorrhage associated with placenta previa.

## THERAPEUTIC NOTES

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**Endocarditis in Children.**—Floyd M. Crandall says the management of the acute stage has been a comparatively simple matter—rest in bed for six weeks to two months. This quietness should be continued if the heart becomes irregular or too rapid. Difficult problems may arise, after the child is out of bed, with a murmur. It is a mistake to maintain restrictive treatment too long. As to exercise to be permitted, the action of the heart is the best guide under exercise. Arbitrary rules do more harm than good. Each case should be studied and the patient, rather than the disease, treated.

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**High Blood Pressure.**—F. de H. Hall (*Clinical Journal*, London), places less value on drugs in arteriosclerosis the longer he watches these cases. Drugs with an aperient action are serviceable. First place is given to calomel and blue pill. In addition to their aperient action they have a remarkable effect in lowering blood pressure. Aperient mineral waters, or a teaspoonful of Epsom or Glauber's salts, may be taken in half a tumblerful of warm water before breakfast. Iodides come next to the aperients. Hall usually employs potassium iodide, but some tolerate the sodium iodide best. The Wassermann test should be made in syphilitic patients, and if positive, mercury should be given, preferably by inunction. He does not advise salvarsan in these cases. After a mercurial course, potassium iodide. Small doses of thyroid extract may be given to the obese or at the menopause, with a combination of bromide and iodide of potassium. This will be found useful in diminishing weight. It relieves the patient of flushes and feeling of fullness in the head. Chocolate tablets of potassium or sodium nitrite, one to two grain doses, may be tried, up to five grain doses, if the iodides are badly borne. Hall has got beneficial results from hippurates of ammonia and lithia in a few cases, usually using the latter, three or four grains daily. For emergencies he reserves the more powerful amyl nitrite, nitroglycerine and erythrol tetranitrate, as they act more quickly as vasodilators—such emergencies, anginal or dyspneal attacks. For very acute attacks the inhalation of three minims of amyl nitrite on a pocket handkerchief gives immediate relief. The action of this may be continued by 1-100 grain of nitroglycerine. This dose

may be increased up to 1-10 grain. In patients who get anginal symptoms on starting to walk he has found 1-4 grain doses of erethrol tetranitrate most useful. This should be given a quarter of an hour previously. As a remedy, blood-letting has been found of the greatest service. Where the patient is unconscious and cerebral hemorrhage is feared, venesection is indicated; also in convulsive cases with high tension. From ten to twenty ounces of blood, according to the severity of the attack and the sex of the patient, withdrawn, brings about good results.

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**Placenta Previa.**—A. Brindeau (*Revue Mens. de Gyn d'obs. et de Péd.*) relies on the rupture of the membranes, the inflatable bag, bipolar version, manual or instrumental dilatation, etc. He claims surgical treatment is only exceptionally required. Rupture of the membranes suffices to arrest the hemorrhages in about one-half the cases, but if labor does not follow, this may lead to complications. It is not always easy to introduce the metreuryuter in placenta previa, and it might push up the placenta and separate it completely. With instrumental or bimanual dilatation there is still a mortality of seven or eight per cent.

When hemorrhage continues the uterine artery can be clamped through the posterior roof of the vagina; or the aorta can be compressed by the hand or rubber-tube around the waist. A chair may be slipped under the mattress, thus raising the patient's pelvis. Hemorrhage, in this way, stops of itself, when the venous pressure is less than the intra-uterine pressure.

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**Intestinal Stasis.**—Norman Porritt (*B.M.J.*) has found pituitrine of value in promoting movements of the intestine in three cases of obstinate intestinal stasis, after abdominal operations.

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**Chronic Joint Disease.**—S. Gara (*Med. Klinik*) refers to the chronic joint affections developing from a basis of metabolic disturbance, for instance, gout, gastro-intestinal derangement, etc. Close study of these cases reveals more or less enlargement of the thyroid, suggesting abnormal functioning of the gland. Practising at a spa he has seen a considerable number of these cases, and urges physicians to be on the lookout for them and to give them systematic thyroid treatment.

## Reviews

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*The Myth of the Birth of the Hero.* By OTTO RANK, of Vienna.  
New York: Nervous and Mental Disease Publishing Co.

This book is a psychological interpretation of Mythology. There are chapters on Moses, Oedipus, Paris, Perseus, Romulus, Hercules, Jesus, Siegfried, Lohengrin, besides others not so well known to the majority of mortals. There is an introduction explaining the scope of the book.

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*X-Rays.* An Introduction to the Study of Röntgen Rays. By G. W. C. KAYE, B.A., D.Sc., Head of the Radium Department at the National Physical Laboratory, etc. Price 5 shillings net. London: Longmans, Green & Co.

To one who wishes to begin the study of present-day methods and apparatus, this book will be found admirably suitable. It does not profess to be a hand-book but rather an introductory treatise upon the subject. It will give a fair and accurate insight to the man of general scientific bent.

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**Dial-Ciba.** — W. Zuelachaur (*Deut. Med. Wochen.*) has used this new hypnotic in a wide variety of conditions in mental cases, and finds it has several advantages over older hypnotics. It can be given in smaller doses—from one-tenth to two-tenths grain usually being sufficient to produce many hours of normal sleep. More than this dose was only required in one or two cases of insomnia, and only once was four-tenths used. It can be used in still smaller doses to quiet patients during the day. The disadvantage is that it quickly establishes a tolerance so that the dose has to be raised. Chemically the substance is diallyl barbituric acid. There have not been observed any harmful or undesirable side actions.

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## COMMENT FROM MONTH TO MONTH

**To Sir Thomas G. Roddick** are extended our warmest con-  
gratulations. The announcement of His Majesty's birthday hon-  
ours came with gratifying pride to the medical profession in  
Canada. Being looked and hoped for it was therefore, no surprise.  
No other medical man in Canada had worked so long, faithfully,  
and at last successfully, as did Dr. Roddick, for the completion  
of Dominion Registration. Successively Sir Thomas has occupied  
distinguished positions at the hands of his medical confreres all  
over the Dominion. There is no medical man more beloved  
throughout Canada than the new Knight. May he long be spared  
to that profession in which he has been a shining light and now  
an illustrious Knight!

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**The Next Step in Life Conservation** is to be the reporting of  
all diseases, or, at best, the major part of them. Life-saving cam-  
paigns have been inaugurated in every civilized country during  
the last two decades, with the result, that there has been a very  
noticeable diminution in the deaths from certain diseases, such  
as tuberculousis, typhoid fever, smallpox, and the infectious dis-

eases of childhood. But whilst the death rate has been cut down, the amount of sickness, on the other hand, has not been controlled to the appreciable degree expected. Some even claim sickness has increased.

In a well-reasoned article upon this subject, Mr. Louis I. Dublin, Ph.D., Statistician, Metropolitan Life Insurance Company, New York, claims that "the basis of any campaign against sickness must be an accurate knowledge of its prevalence." Delivered, as this address was, before the Association of Life Insurance Presidents, and bearing in mind the vital interest insurance and fraternal companies and societies have in the conservation of human health and human life, the education of the people by the medical profession, and particularly officers of health, is seemingly bearing abundance of fruit.

Heretofore it has been considered only necessary to know only the number who have died from any particular cause, but, hereafter, emphasis must be placed upon the number of cases of sickness themselves. This will necessitate on the part of the State the recording of all preventable diseases in order that a proper foundation is laid for an efficient sanitary administration.

Gradually departments of health have added reportable diseases to their lists; and it is within the near future that, in addition to communicable diseases, others, such as the occupational diseases and injuries, the venereal diseases, and certain diseases of unknown origin, such as cancer, will be added. The proper control of morbidity will the more effectually curtail the mortality.

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**Acne.**—Sibley (*Clinical Journal*) says sulphur, internally, is often a good remedy. A teaspoonful of the following powder may be taken in milk the first thing in the morning: Flowers of sulphur, neutral tartrate of potash, sulphate of magnesia.

Where it is necessary to bring about a local reaction plaster mulls may be applied. These should contain salicylic acid or resorcin, the former often combined with creosote. The strength of these plasters varies from five to forty per cent. Vaccine treatment is often useful as an adjunct to local treatment; but severe cases often do better under vaccine treatment than mild ones. It must be continued for six months at least, and long after all spots have ceased to disappear. In the majority of cases repeated small doses of x-rays will bring about a satisfactory cure.

## Editorial Notes

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### DOMINION MEDICAL COUNCIL

OTTAWA, June 19.—Officers were elected by the Medical Council of Canada, which has just concluded its annual session here, as follows:—

Honorary President, Dr. T. G. Roddick, Montreal; President, Dr. R. S. Thornton, Deloraine, Man.; Vice-President, Dr. R. J. Gibson, Sault Ste. Marie, Ont.; Registrar, Dr. R. W. Powell, Ottawa; General Counsel, F. H. Chrysler, Ottawa.

The examinations of the Council for admission to the register were ordered to take place at Montreal in October, 1914, and the spring examination in Winnipeg in June, 1915.

At the close of the session Dr. T. G. Roddick, the retiring president, who was elected honorary president for life, with a seat on the executive, entertained the Council at luncheon. The next session will be held in Ottawa, June, 1915.

All the provinces were represented at the sessions, as well as all the universities, the Government appointees being Dr. T. G. Roddick and Dr. Braithwaite, of Edmonton. Dr. Bapty, of Victoria, was unable to be present. The diploma of L.M.C.C. was granted to Hon. Dr. Roche, Minister of the Interior.

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### VACANCIES ON MCGILL TEACHING STAFF FILLED

Several changes in the teaching staff of McGill University were announced yesterday afternoon at the meeting of the Governors in the Royal Victoria College. Three resignations were accepted, those of Dr. Walton, Dr. Howard T. Barnes and Dr. R. B. Miller.

Keen regret at the loss of Dr. A. E. Barlow and H. H. Lyman, who perished on the Empress of Ireland, was expressed by the Board. Dr. Barlow was a member of the teaching staff and Mr. Lyman a graduate of McGill.

Dean Walton has accepted a position with the Egyptian Government at Cairo; Dr. Barnes will take up the duties of Professor of Physics in the new University of British Columbia, and Dr. Miller will go to the Western University in London, Ont.

The appointments in the different faculties were as follows:  
G. R. Mines, M.A., to the Joseph Morley Drake Chair of Physiology.

Dr. Douglas McIntosh to be Professor of Physical Chemistry.

Dr. J. W. Tait, Assistant Professor of Psychology.

Dr. A. B. Gordon, given titular title of Professor in the Department of Oriental Languages.

Dr. F. M. G. Johnston, Associate Professor of Chemistry.

Dr. R. V. Krieble, Assistant Professor.

A. R. Maclean, J. B. Robertson and L. A. Brown were re-appointed demonstrators in chemistry, and T. West, of Victoria University, Manchester, and H. S. Reid and M. J. Marshall, graduates of McGill were appointed demonstrators in the same subject.

Appointments were made in the Faculty of Medicine as follows:

Dr. L. J. Rhea, Associate Professor of Pathology; Dr. C. K. Russell, Lecturer in Neurology; Dr. A. Freedman, Assistant in Anatomy; Dr. Maud E. Abbott, Lecturer in Pathology; Dr. H. B. Cushing and Dr. C. A. Peters, Lecturers in Medicine and Clinical Medicine; Dr. E. M. von Eberts, Lecturer in Surgery and Clinical Surgery; Dr. H. C. Burgess, Lecturer in Gynecology.

Dr. J. J. Ower was appointed to the fellowship in Pathology maintained by Dr. James Douglas, of New York, one of the Governors of the University, and Dr. R. H. Malone to the studentship in the same subject maintained by the same benefactor.

In the Department of Dentistry Dr. A. Clifford Jack was appointed Lecturer in Dental Anatomy; Dr. L. H. Thornton, Superintendent of Dental Clinic, and W. L. Bond, K.C., Lecturer in Dental Jurisprudence.

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### **DR. H. S. BIRKETT, MCGILL DEAN OF MEDICINE**

The honor of Dean of the Faculty of Medicine has been bestowed on Dr. H. S. Birkett by the Board of Governors of McGill University. Dr. Birkett will assume his duties at the end of June, when Dr. F. J. Shepherd vacates the office.

The new Dean of the Medical Faculty is considered the foremost authority in Canada on throat and nose diseases, and in his specially chosen field has a reputation in Europe and in the States for sound and brilliant work.

Although an effort had been made to fill the place, the Governors had to report no success in selecting a Dean-ship for the Faculty of Law. The choice will not be made until the return of Principal Peterson, who is about to take his annual trip to Europe.

The hope of the Governors that they would have a definite announcement regarding their plans for a combined armory and gymnasium was not realized. The expected word had not yet arrived from the Department of Militia. With the \$100,000 donated by J. K. L. Ross, the Board is in a position to go ahead with a thoroughly modern gymnasium in any event, however.

#### INTERNATIONAL REPUTATION.

Dr. Herbert Stanley Birkett is one of the most eminent physicians in Canada, with an international reputation as a specialist in diseases and troubles of the throat and nose. The son of the late William Birkett, merchant, of Hamilton, Ont., he was born there on July 17th, 1864. He received his education at Forest House School, Chester, England, and at McGill University, where he graduated in medicine in 1886, carrying off the Holmes Gold Medal in that year. In 1886 and 1887 he was senior house surgeon at the Montreal General Hospital, and from 1886 to 1889 he was assistant physician at the Montreal Dispensary. Devoting himself more and more to his special subject, he was appointed laryngologist to the Montreal Dispensary in 1889, and acted in that capacity until 1891. From 1891 to 1899 he was laryngologist to the Montreal General Hospital.

In the years 1889 and 1890, Dr. Birkett was Junior Demonstrator of Anatomy at McGill University. He was promoted to be Demonstrator of Anatomy in 1890, and held that post until 1896. In 1895 he was appointed Professor of Laryngology and Ontology at McGill, and in 1898 he was appointed specialist in the same subjects at the Royal Victoria Hospital. These posts Dr. Birkett has held ever since.

#### MANY HONORS CONFERRED.

Dr. Birkett is connected with all the chief medical bodies in the Dominion, the United States and Great Britain. For some years he was general secretary of the Dominion Medical Association, and also of the Montreal Medical-Chirurgical Society. In 1898 he was elected Vice-President of the American Laryngologi-

cal Association. In 1902 he became Vice-President of the Montreal Medical-Chirurgical Society. In 1897 he was Secretary of the Laryngological Section of the British Medical Association. From 1890 to 1896 he took an active part in the affairs of the American Association of Anatomists. Later honors included the Presidency of the Montreal Medical-Chirurgical Society; the Vice-Presidency of the Section of Laryngology and Otolology of the British Medical Association, in 1906; and the Presidency of the American Laryngological Association in 1907-08.

#### HIS MILITARY ACTIVITIES.

Dr. Birkett was connected with the Canadian volunteer militia for many years, and for ten years has held the rank of a Lieutenant-Colonel. He organized the first bearer corps in Montreal. In 1893 he was attached to the Army Medical Staff at Aldershot, England, and took a first-class certificate at the training school there. He was appointed P.M.O., M.D., No. 5, in 1906 and retired, retaining rank, in 1910. In 1909 he was elected President of the Association of Medical Officers of the Canadian Militia.

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**Fracture of Upper End of Humerus.**—Harold B. Thompson (*Northwest Medicine*) describes a figure four splint which he has used with great success in several cases of fracture of the humerus near the shoulder. The splint is illustrated and described by Scudder, and is accredited to the clinic of V. Hacker. Dr. Thompson claims he had not known of this until he had made and used the splint several times. It fits the inside of the upper arm, side of chest and upper surface of forearm laid horizontally across the body. It is held in position by adhesive strips half way round the body at the level of the nipple and umbilicus, and also around the arm and forearm. The whole is then immobilized by a bandage through the figure-four splint and around the arm and forearm, and then around the entire body.

## News Items

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Dr. Walter Wilkins, Montreal, is in Germany.

Dr. John Hunter, Toronto, has gone to England.

Dr. George McDonagh, Toronto, has sailed for Europe.

Dr. Tannenbaum, Montreal, is summering in the Catskills.

Dr. J. T. Finnie, Montreal, is spending some months abroad.

Dr. Walter Walker Wright, Toronto, has gone to England for some time.

Dr. C. J. Patton, Montreal, is spending two months in Pennsylvania.

Dr. Kennedy C. McIlwraith, Toronto, has returned and resumed practice after several months abroad.

Dr. Edward Seaborn, London, Ontario, has been made a Fellow of the American College of Surgeons.

The announcement is made of the death of Dr. M. J. Glass, of Poplar Hill, Ontario, at the age of 65 years.

Dr. L. deL. Harwood, Montreal, has returned from Paris feeling much improved after a serious operation.

Dr. W. A. Thomson, Regina, has been east attending the meetings of the Dominion Medical Council, American Medical Association, and the Canadian Medical Association.

The Moose Jaw Medical Society has elected the following officers: President, Dr. Geo. P. Bawden; Vice-President, Dr. C. H. Freeman; Secretary-Treasurer, Dr. C. G. Sutherland.

Dr. Rowland Webb, Grand Rapids, Mich., paid a flying visit to Toronto on his way home from Philadelphia, where he received a fellowship in the American College of Surgeons.

Dr. Chester Brown, Toronto, recently attached to the Ontario Board of Health, has been appointed assistant medical officer and bacteriologist at the William Head Quarantine Station, British Columbia.

Dr. H. W. Hill of the Hygienic Institute at London, Ontario, has been granted a year's leave of absence and will do special work for the Minnesota Board of Health. It is stated Dr. Hill will not return to London.

Dr. Lowery, port physician of Montreal, under the Department of Agriculture, states that so far no instructions have been issued to guard against the introduction of bubonic plague reported to have appeared in several American southern ports.

The Saskatchewan Medical Association is holding its annual meeting this year in Saskatoon, on the 18th, 19th and 20th of August. Dr. George R. Peterson, Saskatoon, is the President, and Dr. J. T. McKay has been appointed Secretary in place of Dr. A. Wilson, recently resigned.

The Ontario Board of Health reports 1,503 cases of infectious diseases in the province for the month of June, with 89 deaths, as against 1,566 cases and 154 deaths for the corresponding month in 1913. Only 95 cases of tuberculosis were reported in June, as against 143 in June, 1913. The claim is made that physicians are not regularly and promptly reporting these cases.

The late H. H. Lyman, Montreal, drowned in the Empress of Ireland disaster, left \$20,000 to McGill University and his entire entomological collection and library. To the Children's Memorial Hospital, he also left \$25,000; to the Montreal General Hospital, \$3,000; Royal Victoria, \$3,000; Protestant Hospital for the Insane, \$3,000; Anti-Tuberculosis League, \$1,000.

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**Orchitis.** — The anti-meningococcic serum of Dopter, prepared at the Pasteur Institute, Paris, is said to be very effectual in epididymitis and orchitis. It is injected into the gluteal muscle in the centre of a line from the superior iliac spine and the summit of the fold of the nates. The dose is 20 c.c., or five drachms, repeated, if necessary, in five or six days. Rarely a third injection is required. The effects of the injection are felt in a few hours, pains disappear, sleep supervenes and the following day the part is less sensitive to pressure. The swelling is absorbed gradually and progressively.

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And Ontario Medical Journal

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## Original Articles

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### ABSTRACT OF THE PRESIDENT'S ADDRESS \*

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By MURRAY MacLAREN, M.D., M.R.C.S. (Eng.), F.A.C.S.

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This large assemblage of medical visitors has suggested to me that it might be of interest to review the history of the early and important visits of medical men to this city and province. There are three periods which seem of particular interest from this aspect.

The explorers, de Monts and Champlain, after receiving authority from Henry IV, King of France, to undertake the colonization of Acadia, sailed from Havre on the 7th of April, 1604, and arrived four weeks later at the southwest shore of Nova Scotia. De Monts and Champlain later on explored the Bay of Fundy in a smaller boat of eight tons. Leaving their ship with the greater part of the members of the expedition at St. Mary's Bay, Nova Scotia, they took with them about a dozen men. On the 24th of June, 1604, they entered what is now known as the harbor and river of St. John, as Champlain says in his remarkable account of the exploration, "one of the largest and deepest rivers we have yet seen, which we named the River St. John, because it was on that saint's day we arrived there."

It is not mentioned whether they carried a surgeon with them in the pinnace, but it is probable there was one. There were at least two surgeons in the expedition, and as the leaders were in this boat, it is likely one was with them, more especially as it is known that on a later occasion, in a voyage made in a pinnace south of Cape Cod, a surgeon was carried. Were a surgeon present when Champlain discovered St. John, as is

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\* Delivered at the Annual Meeting of the Canadian Medical Association, St. John, July, 1914. Published by courtesy of the Editor of the Canadian Medical Association Journal.

likely, he would of course have been the first physician to visit these shores.

The stay of de Monts and Champlain in St. John was very brief, as they soon proceeded to the River St. Croix, New Brunswick, to search for a locality suitable for a settlement. St. Croix Island was selected and the remainder of the expedition joined them there. As it proved, they were unfortunate in their choice. The situation of a settlement on an island prevented them, at some seasons of the year, having free access to the mainland for a supply of water and food; there was much illness resulting from their mode of living during the winter of 1604-5. Champlain gives an interesting account of the severe and fatal illness which appeared among the colonists. He says: "During the winter many of our company were attacked by a certain malady called the *mal de terre*, otherwise scurvy, as I have since heard from learned men. There were produced in the mouths of those who had it, great pieces of superfluous and drivelling flesh (causing extensive putrefaction) which got the upper hand to such an extent that scarcely anything but liquid could be taken. Their teeth became very loose and could be pulled out with the fingers without its causing them pain. The superfluous flesh was often cut out, which caused them to eject much blood through the mouth. Afterwards a violent pain seized their arms and legs, which remained swollen and very hard, all spotted as if with flea bites; and they could not walk on account of the contraction of the muscles, so that they were almost without strength and suffered intolerable pains. They experienced pain also in the loins, stomach and bowels, had a very bad cough and short breath. In a word they were in such a condition that the majority of them could not even be raised up on their feet without falling down in a swoon. So that out of seventy-nine who composed our party thirty-five died, and more than twenty were on the point of death. The majority of those who remained well also complained of slight pains and short breath. We were unable to find any remedies for these maladies.

"A post-mortem examination was made of several bodies to investigate the cause of their malady. In the case of many, the interior parts were found mortified, such as the lungs, which were so changed that no natural fluid could be perceived in them. The spleen was serous and swollen. The liver was woody and spotted without its natural color. The vena cava, superior and inferior, was filled with thick coagulated and black blood. The gall was tainted. Nevertheless many arteries, in the middle as well as lower bowels, were found in good condition."

The surgeons, however, of this expedition conducted by de Monts and Champlain, were the first to visit this portion of Canada, and it is interesting to have a record of their post-mortem findings in the cases of scurvy.

At Port Royal one of the surgeons was Deschamps of Honfleur and another was Master Stephen; both of these surgeons had scurvy to deal with and both performed post-mortems, but they were evidently not the same surgeons as those who came to New Brunswick.

Later on the history of St. John is prominently associated with the name of La Tour, both on account of the eminence of Charles La Tour and the bravery and beautiful character of Madame La Tour. Professor Ganong writes me that in his work in connection with Acadian history he has found no reference to suggest the presence of a physician with La Tour, nor does he find or recall anywhere in pre-loyalist documents anything bearing on the subject, except what I have just mentioned.

The second visit of interest from a medical point of view was on the occasion of the foundation of the city. Previous to 1783 there were merely a few log huts, where the city of St. John now stands. On the 18th of May, 1783, there landed from twenty ships three thousand men and women, in June of the same year two thousand, and in September three thousand. These men and women who desired to retain their allegiance to the British Crown founded the city as it were in a day. Hence it is called the "Loyalist City," and the 18th of May is annually observed in commemoration of the landing of the Loyalists.

With the Loyalists came a number of medical men, seventeen of whom are mentioned in a paper by J. W. Lawrence. Several had held commissions as surgeons in the revolutionary war. Of these physicians a number remained in St. John, others went to various portions of the province, while others returned to their old homes. Among these may be mentioned Dr. Paine who, with others in 1785, presented a memorial to the Governor-in-Council, praying that a charter of incorporation might be granted for the institution of a Provincial Academy of Arts and Sciences. This was the initial step in the movement that led to the foundation of what is now our Provincial University. Another was Dr. Samuel Moore, who has the distinction of having performed the first post-mortem examination in St. John, and the following is his report to the Honourable George Leonard, J.P.:

"Sir,—Agreeable to your request I examined the black man's head. I am perfectly satisfied he was murdered, after examining

where the fork perforated the temporal bone of the skull. I sawed off the arch of the head and found the ventricles of the brain everywhere impacted with matter. The symptoms before death were also very obvious. All the Jury were spectators. Your servt., Sam'l Moore. October 6th, 1798."

The last important visits in the history of the province to which I shall refer are those of the Canadian Medical Association. The Association met here for the first time in 1873, six years after its formation, when Sir James Grant was president, and there were fifty-five members present. The next visit was twenty-one years later when Dr. T. O. Harrison, of Selkirk, was president, and one hundred and nineteen attended. And now the Association is meeting for the third time in our city, and we hope there will be four hundred members here. Among the names of those who were present on the former occasions and who are no longer with us, one may mention Graham of Toronto, Wright of Ottawa, Hingston, Buller and Bell of Montreal, Bayard of St. John, Parker and Farrell of Halifax, Muir of Truro, and MacLeod of Charlottetown. Surely these names are illustrious and revered in the annals of the Association.

It is interesting on looking over the records of the previous meetings to notice that a Dominion Medical Act, inter-provincial registration, and a uniform standard of medical education for the various provinces of the Dominion were among the subjects discussed, as they had been at earlier meetings and as they continued to be for many years.

The difficulties arising in obtaining Dominion registration, especially owing to the matter not coming within the jurisdiction of the Dominion Government, were fully recognized, but it is now well known to us all that, after much patience and persevering efforts, the Canada Medical Act was finally brought into existence under the able leadership of our honorary president, Sir Thomas G. Roddick.

Another subject with which the early meetings here dealt was that of vital statistics. This, with a proposal for a department of public health under the Dominion Government, has been constantly brought to the attention not only of the Association but of the Government from that date to the present time with, so far, little or no result. From the history of the Canada Medical Act we must derive the lesson that movements of this kind succeed after persistent effort, finally are accepted and pass into law.

The establishment of a department of public health means so much to the state, it is a matter of such tremendous and vital

importance, that the Association must continue its efforts towards prevailing upon the Dominion Government to undertake this great measure of reform.

A great future lies before the Canadian Medical Association; the ground of its foundation is so firm and the reasons for its existence and extension are so substantial and vital that one need not fear for its success. From its own intrinsic worth it will move on, overcoming difficulties. It is destined to become one of the principal factors in influencing Canadian public opinion and the parliaments, and in bringing about changes and reforms of the greatest value to the health and well-being of the state and the individual. While for our comfort all this is true, it does not follow that our every effort is not required to improve the position of the Association and to put it in a foremost place at the earliest opportunity.

There are several particular requirements towards the accomplishment of which we should direct our special energies at the present time. There are about eight thousand medical practitioners in Canada. Of these eight thousand, fifteen hundred and twenty-five are members of the Association—one-fifth of the medical population. Here is an opportunity for missionary work. There are many to be brought into the fold. We must not forget, however, that the membership has grown materially in recent years, and perhaps a steady gradual growth is of a more permanent character. Nor must we fail to remember and appreciate the splendid work which has already been done by many members of the Association; far from it. It remains for us to be the torch-bearers, to carry on work well begun.

A largely increased membership, interested in the work and objects of the Association, is one of the great desiderata of the Association, and it is for the members to exert their influence, so far as is possible, toward the consummation of this object. The membership should include a good representation of the two principal races in Canada. Last year the eminent Lucas-Championnière was invited to attend this meeting. He viewed with pleasure the prospect of meeting his French-Canadian confreres, and he had the matter under consideration when death removed his notable figure from the medical world.

A second important requirement is the amendment of the Association's Constitution and method of organization. As time has gone on the organization of the Association has been developed in accordance with what has been found successful in the great medical associations of Britain and the United States

and in accord with our ideas of what is most suitable to our special conditions. Thus the organization has extended to the affiliation of provincial associations and further, to some extent, to the medical societies within the provinces, although in the case of the latter it has not yet been carried out to any great extent, much as there is to be said in its favor and much as it is to be hoped for.

That the method of organization is yet complete and final, no one would for a moment suggest; on the contrary, one would only expect that time and experience would cause changes to be made from time to time to adjust the Constitution according to the general view. I would therefore urge that we exhibit patience and forbearance in the matter of development of organization; changes which are made should apply equally, as far as possible, to all parts of the country. My view is that the plan of organization in a general way is most suitable and appropriate and that it is in the best interest of all for the provincial associations to be affiliated with the central national society.

As the Association is the national medical society of Canada so are the provincial societies the natural representatives of the provinces and bear a similar relationship, and I cannot conceive of any organization so national and suitable as that in which the provincial associations are affiliated with the national. There can hardly be a more workable method of obtaining views of medical men all over the country, nor of considering or carrying forward any general measure initiated in a provincial association. The affiliation has a broadening and educative tendency which cannot be overlooked. As I heard someone say not long ago, "*Wir lernen von ihnen, sie lernen von uns.*" It would seem highly desirable that the connecting link be firm and close in sympathy and light and flexible in its organic connection. The great strength of the British Empire is its sentiment, which holds all its parts firmly together with a certain amount of common interest, and so it should be with our medical societies.

It is desirable to eliminate all that is unnecessary in organization, and as far as possible all that may prove irritating or objectionable, and in this connection it would seem desirable that when it appears to any of the provincial associations that some modification is needed, by all means it should be brought forward, thoroughly discussed, and adjusted to the satisfaction of all.

The provision in the Constitution that a provincial association in whose territory the meeting of the Canadian Medical Association is held shall for that year have an executive meeting only, is one that might easily be abolished, so that each provincial society can do as it sees fit in this matter. There is no principle at stake and no harm would result. Some provinces will prefer not to hold a meeting, while others no doubt will do so. However, the point—it is not a difficult one—can be easily dealt with, and does not require any elaborate argument. I venture to think that modifications can be made in the regulations which will be satisfactory to all and yet not interfere with the principle involved.

The Constitution and By-laws are in a number of instances rather contradictory and defective and it would seem desirable that a revision be soon undertaken. Were one asked the question, "When is the president not the president?" the answer might be, "When he is the president." For the first year, when president-elect he is mistaken for the president more than half the time, while in reality he has no status; and during the year following the meeting at which he has presided he is busy keeping out of the way of the president-elect, who is actively engaged preparing for the next annual meeting.

Members have spoken to me from time to time of their wishes in reference to the third requirement—that is, a weekly journal. The *Journal* as it now stands serves a most useful purpose and is highly creditable to the Association. A more frequent publication, however, is particularly desirable, and should be kept steadily in view by the Association. It is essential for the well-being of the Association. The difficulty is financial. I trust the Executive Council will carefully consider the matter, and if possible formulate some plan whereby the wishes of the members may be met.

Last year an important movement affecting public health was instituted in Great Britain, under the auspices of the leaders of the profession, to prevail upon the British Government to appoint a royal commission whose duty it should be to make a thorough inquiry into the subject of what has been termed the hidden plague, venereal disease, with the result that such a commission is now pursuing its investigations. The forthcoming report will be received with much interest and it is hoped that it will include practical suggestions for the diminution of this prevalent disease, prevalent indeed, when one considers that the statement is made that there are five hundred

thousand fresh cases of venereal disease every year in Great Britain, one-quarter of these being in its gravest form.

The International Medical Congress, in August of last year, held a weighty discussion on this subject, and I might quote the resolution which was passed: "Sensible of the ravages wrought by syphilis in the health of the country, and deploring the inadequacy of existing facilities for checking its dissemination, the International Congress calls upon the governments of all countries represented, first, to initiate a system of confidential notification of the disease to a sanitary authority, wherever such notification does not already obtain; second, to make systematic provision for the diagnosis and treatment of all cases of syphilis not otherwise provided for." This resolution was said to embody the irreducible minimum of what was right for all civilized governments to do.

Before concluding my address I wish to refer briefly to a branch of medicine in Canada which is deserving of commendation, and which I think has hitherto received but little notice—the Army Medical Corps. Previous to 1899 there was no medical service; each regiment had its own medical officer, that was all. At the present time there is an organized service of seven hundred medical officers and eighteen hundred non-commissioned officers and men ready for the field and, as compared to the rest of the service, it is very complete.

The inspector-general of the overseas forces, Sir Ian Hamilton, in his report on the military institutions of Canada, stated that the medical corps keeps well ahead of every other branch of the service in the completeness of its preparations for war, a state of affairs due largely to the whole-hearted support it receives from the medical profession in all its grades. A militia is, or rather ought to be, the expression, for the purposes of war, of every form of national activity, and other departments of national life, such as railways, telegraph companies, motorists and motor-cyclists, and the unions might well take a leaf out of the doctors' book and set to work to organize themselves for the defence of the country. These words should give much satisfaction to the able Director-General of the medical services and to all connected with the corps so recently formed, and to the profession generally. There is, however, ample room for much further development and the medical profession of Canada can do a great deal towards assisting in the matter. As the establishment is unlimited, members of the profession, especially those who have recently graduated, can join the corps. In this way not only does one share a public

duty, to be fairly assumed by all men, but the personal benefits are not inconsiderable: the physical training and discipline for a period of several years after graduation is to be recommended. The Army Medical Corps has acted as a school of instruction in sanitation in camps and has diffused more practical knowledge of sanitation than has any other organization in the country.

The national development of medical aid is of great service, whether in time of peace or of war, in connection with either military or civil life, and not only does the Medical Corps participate in this development, but the successful progress of such organizations as the St. John Ambulance and the Red Cross Society does much towards fitting our men and women to render aid to the suffering at all times and under all conditions.

It is written in the Apocrypha, "Honor a physician with the honor due unto him for the uses which ye may have of him; for the Lord hath created him." Here is instruction laid down for the laity. To merit the honor, the medical profession has its obligations, and how may they be met? Remember the old Scotch words, "Tak yer auld cloak about ye." The cloak may appear perhaps a little old-fashioned and sometimes be put aside, but when brought out again it will still have the fragrance of lavender: it is our precious heirloom, the mantle of glorious tradition, splendid achievement and high purpose. Let us take it about us.

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## THE METHOD OF ZADIG IN THE PRACTICE OF MEDICINE\*

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By THOMAS McCRAE, M.D., F.R.C.P. (Lond.),  
Professor of Medicine, The Jefferson Medical College, Philadelphia.

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*Mr. President and Members of the Association.*—It is first my pleasant duty to express my sense of appreciation of the compliment paid in being asked to deliver the address in Medicine. An honor under any circumstances, it must be regarded as particularly so by one who, living under another flag, is your fellow countryman. "They change their skies but not their hearts who roam."

To some of you the title of my address will bring back a story which we read in our old school readers more years ago

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\* The Address in Medicine delivered at the Annual Meeting of the Canadian Medical Association, St. John, N.E., July 7th, 1914. Published by courtesy of the Editor of the Canadian Medical Association Journal.

than perhaps we care to remember. To all of you it must be familiar, but as it serves my text perhaps you will bear with its recital.

Zadig is supposed to have lived at Babylon in the days of King Moabdar. Disgusted with life, he is said to have fled from the city to a secluded retreat on the banks of the Euphrates, where he beguiled his solitude by the study of nature. A habit of careful observation, engendered by such a life, leads to the detection of many trifles which would otherwise escape notice, and these when correctly reasoned upon may lead to discoveries that seem most mysterious and are really marvellous. Strolling along one day near a small wood, Zadig saw hastening that way one of the queen's chief eunuchs, followed by a troop of officials, who appeared like men distraught, running hither and thither as if in search of some lost treasure.

"Young man," cried the eunuch, "have you seen the queen's dog?"

Zadig answered modestly, "A bitch, I think, not a dog?"

"Quite right," replied the eunuch; and Zadig continued: "A very small spaniel who has lately had puppies; she limps with the left fore-leg, and has very long ears."

"Ah! you have seen her, then?" said the breathless eunuch.

"No," answered Zadig, "I have not seen her; and I was really not aware that the queen possessed a spaniel."

By an odd coincidence, at the very same time the handsomest horse in the king's stable broke away from his groom in the Babylonian plain. The grand huntsman and all his staff were seeking this horse with as much anxiety as the eunuch and his people the spaniel, and the grand huntsman asked Zadig if he had not seen the king's horse go that way.

"A first-rate galloper, small-hoofed, five feet high; tail three and a half feet long; cheek-pieces of the bit of 23-carat gold; shoes silver?" said Zadig.

"Which way did he go? Where is he?" cried the huntsman.

"I have not seen anything of the horse, and I never heard of him before," replied Zadig.

The grand huntsman and the chief eunuch made sure that Zadig had stolen both the king's horse and the queen's spaniel, so they haled him before the court of justice, which at once condemned him to punishment. But the sentence was hardly pronounced when the lost horse and spaniel were found. So the judges were under the painful necessity of reconsidering their

decision; but they fined Zadig for saying that he had seen that which he had not seen.

The first thing was to pay the fine; afterwards Zadig was permitted to open his defence to the court, which he did as follows: "This is what happened. I was taking a walk towards the little wood, near which I subsequently had the honor to meet the venerable chief eunuch and the most illustrious grand huntsman. I noticed the track of an animal in the sand, and it was easy to see it was that of a small dog. Long faint streaks upon the little elevations of sand between the foot-marks convinced me that it was a she-dog with pendant dugs, showing that she must have had puppies not many days since. Other scrapings of the sand, which always lay close to the marks of the forepaws, indicated that she had very long ears; and as the imprint of one foot was always fainter than those of the other three, I judged that the lady-dog of our august queen was, if I may venture to say so, a little lame.

"With respect to the horse of the king of kings, permit me to observe that, wandering through the paths that traverse the wood, I noticed the marks of horseshoes. They were all equidistant. 'Ah,' said I, 'this is a famous galloper.' In a narrow alley, only seven feet wide, the dust upon the trunks of the trees was a little disturbed at three and a half feet from the middle of the path. 'This horse,' said I to myself, 'had a tail three and a half feet long, and, lashing it from one side to the other, he has swept away the dust.' Branches of the trees met overhead at the height of five feet, and under them I saw newly fallen leaves; so I knew that the horse had brushed some of the branches, and was therefore five feet high. As to his bit, it must have been made of 23-carat gold, for he had rubbed it against a stone, which turned out to be a touchstone, with the properties of which I am familiar by experiment. Lastly, by the marks which his shoes had left upon pebbles of another kind, I was led to think his shoes were of fine silver."

This story is one which may well be pondered by every practitioner and student of medicine, for much of our daily task consists in carrying out this method, and our success or failure in diagnosis depends greatly on how successfully we do it. It was the custom of Sir William Osler to read this story to each class as an introduction to the study of observation and diagnosis. The importance of this method in the advancement of medicine has been discussed by Dr. Balfour,\* and to-day its

\* On the Method of Zadig in the Advancement of Medicine. "Edinburgh Medical Journal," 1900, VII., p. 200.

value in the practice of medicine, and especially in diagnosis, will be considered. There are many followers of Zadig described in fiction, of whom perhaps Sherlock Holmes is the best known. Poe also was attracted by the possibilities of this subject. To the reader of fiction such stories always appeal, and why a detective story should have such a fascination for the majority of us is an interesting subject of enquiry. There is the charm of the unknown and mysterious, the problem of the setting of the powers of observation and reflection against a mystery and the knowledge that at the end of the story we are to have the solution. We have such problems as part of our daily task and our work may be regarded as much like that of the criminal detective. He has a general knowledge of the members of the criminal class; we of disease in general. He knows that certain men have certain methods of work; we know the features of special diseases. It is stated that the police can classify habitual criminals more or less by their methods and, knowing the men in their city who work in a particular way, can narrow down the possibilities of a given crime to a few men. This may be described as the natural history of crime. So, too, we in medicine narrow down the possibilities. But sometimes both doctors and police are puzzled by conditions which do not fall in with the usual manifestations and cannot be classified very readily. The analogy may be carried further, for as the public are often impatient over crimes which cannot be brought home to the guilty parties, so with us they may have similar feelings when we are unable to make a diagnosis promptly.

It is evident that much of the beauty of Zadig's method and the demonstrations of Sherlock Holmes consists in the fact that they work out correctly. Should they come out incorrectly the statements would sound silly. Think of a Holmes story with wrong conclusions.

The essential factor in this method consists in working back from observations of conditions to the causes which brought them about. It is often a question of deciding the doings of yesterday by the records found to-day. It is very evident that in this we have two main processes to bear in mind and keep strictly distinct: first, the collection of the observations, and second, the inferences to be drawn from them. Keeping these separate is essential to any orderly solution of our daily problems, but how difficult this is for the majority of us is brought home to every teacher. Take a group of students who are working at physical diagnosis, and it is a constant struggle to keep

them making observations and not giving inference—usually from insufficient observations, if from any at all. No pains are too great to hammer home into the mind of every student the importance of keeping these two processes separate and not taking up the second until the first is as complete as he can make it. It is just as important for the practitioner as for the student, except that in the latter we are trying to form correct habits; the practitioner should have them. Some teachers are to blame in this regard. The writer once listened to a clinic in which a patient with a retracted chest following empyema was brought in. To the teacher's enquiry of "What do we see here?" the student made no answer. The professor answered his own question with "Fibroid lung." Well, perhaps he did see it—with the eye of faith, but that is not a good eye to use alone in diagnosis—and the student, if he saw with the same eye, could not give reasons for the faith that was in him.

It is an interesting subject of discussion as to whether, having made a mistake, there is any choice between the first and second division. Which is the worse error, to fail to observe certain conditions, or to observe them and interpret them incorrectly? In the writer's opinion the first is much the worse error. Observation is a matter of patience, training and thoroughness, in all of which a man may improve himself, but the use which he makes of his observations is partly a matter of his mental equipment. True he can train his powers of thought and judgment to some extent, but we vary greatly in the quality of our cerebral cells, and the saying of the father of medicine, "Experience is fallacious and judgment difficult," is always true. To observe correctly and decide wrongly is sure to happen to the best of us, but to observe carelessly happens only when we permit it. Perhaps it is not entirely within our power always to prevent this. There are times when the keenest mind seems to miss what may be obvious. The routine of seeing a patient every day may dull the perceptions and what is startlingly obvious to a fresh eye may have escaped observation entirely. Yet here sometimes, perhaps often, it is because there has been a lack of searching rather than a lack of reflection. It is evident that if the first stage—the collection of the facts—is improperly done, we have not the basis for the second and it is bound to be wrong. The game is hopelessly lost from the start. How important, therefore, to give every effort to the collection of our facts.

It is essential, as already said, to keep in mind the two stages of the process—the collection of the facts and the inferences to

be drawn from them. Let us discuss first the collection of the observations. How can a student best be trained to do this and how can a practitioner improve his capabilities of observation? If one has started properly as a student, his training as a practitioner goes on more or less automatically. Many of us may not have learned it as students and have, so to say, to educate ourselves. In this there are two principal things to be considered: first, the importance of method, and second, the importance of inspection.\* The acquirement of method is more or less possible for us all. Some few have it by inheritance and deserve no credit; for the majority it is a matter of hard discipline. It is only by adhering rigidly to a definite routine with patient after patient and day after day that a proper reflex can be obtained. The value of this can be illustrated both by history-taking and physical examination. In the former many points are brought out which are missed if routine questions are not asked in regard to every system of the body. Examples of the importance of routine examination occur to all of us; in how many cases does a routine examination of the urine give information of value; how often does a routine examination of the eyes give a clue to the diagnosis? It is a favorite saying of the laity that such and such a doctor can make a diagnosis at a glance. There never was a greater mistake. The principal difference between a good and a bad diagnostician is usually a matter of thoroughness and method. Brains count, of course, but the man who has not collected his facts has but little chance to use his brains.

In the beginning one has to determine that every point is going to be investigated in regular order, and it is important that this order should be invariable, for if one switches about from one routine to another many things will be missed. Take, for example, examination of the head; general features are noted first and particular ones second. It makes no difference whether the eyes or ears are examined first, but the order should always be the same, for if one is accustomed to examine the ear first and the eye afterwards and with a given patient begin with the eye, the ear may readily be overlooked. A haphazard method usually goes with slipshod observations and careless thinking. To practise order and system requires steady adherence to a given plan until the order of events becomes unconscious. With training one observation follows another without any effort and a glance will do what formerly took repeated

\* It is hardly necessary to say that to lay emphasis on inspection is not to diminish the value of the other means of examination, but the man who inspects thoroughly is rarely wanting in the other methods.

observations. The student or practitioner has to keep himself to the routine of noting point after point in its order and not to be tempted to look into some interesting condition first. There are some curious instances of this, as, for example, the recognition of precordial bulging. If this is not done at the onset of inspection—if a wide impulse or some other point catches the attention first—it will very rarely be done subsequently, unless some other sign demands its reconsideration. It may be said that this is unnecessary devotion to details, but no detail is too small to be worthy of attention. Take, for example, the examination of the ear. It would be interesting to know how many patients there are to-day whose diagnosis has not been correctly made because a tophus on the ear has not been seen. If a man made a correct diagnosis of gout and cleared up an obscure case once in five years, would it not be worth a glance at the ear in every patient? Take also the recognition of a discharge from the ear. How many of the profession are there who have not been surprised and chagrined to discover that a patient had an unrecognized aural discharge for days after he had been under observation.

The importance of this routine examination is not only for present diagnosis but also for the future. An illustration of the importance of this and of careful observation may be given. A man aged fifty years began to show nervous symptoms which need not be entered into fully. He consulted a number of neurologists who hesitated to express a definite opinion but all feared an early stage of general paresis. This was some years ago before the days of the Wassermann reaction and spinal puncture. A most important sign in his case was the fact that his pupils were unequal. The uncertainty of the diagnosis worried him greatly and his condition became progressively worse. One day, while talking to an old physician who had long been a friend of his family but had never attended him professionally, he was giving an account of his symptoms and stated that the point which especially bothered his physicians was the persistent inequality of his pupils, to which the old man answered: "You have had that since boyhood, to my knowledge." With this point settled the doubt in regard to diagnosis was removed and the patient made a rapid recovery. In this case neither the man himself nor his wife had ever noticed the inequality. His own physician had never noticed it until the necessity for a special examination arose. Such instances are not rare, and the curious inability to see things which are before us will be discussed later under the heading of inspection.

The importance of *inspection* cannot be overestimated, but its value is often not appreciated. Ask a medical student at the end of his first course in physical diagnosis which of the four methods—inspection, palpation, percussion, and auscultation—seems to him the most important, and the most common answer is auscultation, unless his instructor has been a disciple of Zadig. This is natural, for while he has been accustomed to using his eyes—carefully or carelessly—all his life, the use of the stethoscope comes as a new experience and appeals to his sense of working with some kind of apparatus. The value of inspection is twofold, both in the information it gives of itself and the fact that it starts one right in the further methods of examination. No average man can be a good diagnostician if he begins his examination by percussion or auscultation. The word average is used because there are some men who are superior to method although they would be better with it. It is not so very rare for a complete error to be made in the side of the chest in which a tuberculous lesion is situated. To begin percussion on the diseased side may give a false standard, and it is in avoiding this that inspection so often comes to our aid. As regards our knowledge of cardiac disease the writer feels that we would be much more efficient in diagnosis (as regards the essential state of function), prognosis, and treatment if we did not listen to a heart say for five years after graduation but obtained our knowledge from inspection, palpation, and percussion. Like all sweeping statements there are exceptions to this, but it is surprising, if the effort be made, how much can be determined without the use of the stethoscope. Certainly as regards treatment the indications are based better on the means of examination other than auscultation. The old direction, “Eyes first, hands next, ears last and least” is an excellent one to keep in mind.

In the recognition of one class of diseases inspection is particularly important. The reference is to the disturbances due to disorders of the glands of internal secretion. We are learning of the frequent occurrence of these cases and for many of them the first suggestion of the diagnosis must come through our eyes. There is no better example than the condition of status lymphaticus in adults to which special attention has been drawn recently by Haven Emerson.\* Here is a clinical picture which, once appreciated, seems to be frequently coming before our observation. I fancy that this is much like the common experience with a new phrase or word to which our attention is directed. We

\* Archives of Internal Medicine, 1914, XLII., 169.

are always meeting it and we wonder how we failed to see it before. The eye has been trained to see it.

"The eye sees only what it is trained to see." This is a matter of daily example. The impression falls on the retinal eye but not on the cerebral eye. No instance of this impresses me more than to look up a busy railroad yard at night when the signal lamps are lighted. To me they are so many colored lights, but little more. To the engineer they chart his course and every one carries a plain message. Yet the impression on his retina and mine is the same. Somewhat of the same is seen if one rides on a locomotive at night. The engineer picks up the signal lights ahead sooner than the passenger. This, of course, is partly due to his knowledge of where the lights are situated, but greatly to his eye seeing what it is trained to see. Reverse the conditions and put the engineer in a hospital ward. He sees a sick man, recognizes that his breathing is labored and distressed, but nothing more; to the physician the whole condition is clear; he knows the signals along this track. How many eyes—yes, and skilled eyes, too—looked at the thorax and never saw the so-called Litten's sign or diaphragm phenomenon? Many of us look at it every day and fail to see it, even after we know about it. How often does the diagnosis of a thoracic aneurism go begging for want of a careful glance?

It is tempting here to digress for a moment to refer to two necessary preliminaries before inspection can be thorough. These are sufficient light and the exposure of the part to be seen. We would not try to take ordinary photographs without sufficient light, yet we constantly try to take the more important visual and mental ones without it. Then as to the second matter, the exposure of the part to be inspected; it seems absurd to dwell on it did not experience prove the contrary. How many chests are examined through the clothing or with the shirt tucked up and important points missed? The effect of this slackness in examinations for life insurance has been emphasized by Greene,\* especially as regards tuberculosis and cardiac disease. It is as sensible to try to read the contents of a book through the cover as to hope to inspect when the area is not exposed.

How can a man train his powers of observation? By use, may be answered, but this is not everything. Use may be careless and lead to deterioration rather than to improvement. It must be a use which involves proper method and thoroughness. For some of us the training which was given to Kim in Kipling's story of that name may be helpful. He was trained for

\* Modern Medicine, first edition, Vol. VI., p. 752

work in the secret service in India and at one stage under Lurgan Sahib he was allowed to look for a minute at a tray which contained various objects. It was then covered and he was required to detail what was on the tray. To Kim's enquiry as to how another had attained greater accuracy than himself in doing this, the answer was, "By doing it many times over till it is done perfectly—for it is worth doing." We might all carry this around as a daily reminder.

Daily life offers many chances of practice. How careful a description can you give of the personal appearance, clothing, etc., of the last patient who consulted you? If he had been a thief who walked off with something from your office could you give the police a description which would help them to capture him? The people we meet on the street, those in the street cars, all with whom we come in contact, may serve as subjects. It may be objected that this is unnecessary and tiresome, perhaps using up mental energy on things of no special importance. But nothing which trains the powers of observation can be unimportant, and far from being tiresome it adds to the interest of the day. "Strive to be one of those upon whom nothing is lost," said a wise teacher. To endeavor to make out as much as possible about those about us from observation alone is an interesting study. Besides it is using a part of our mental equipment which some of us leave unused. It demands observation and reflection. We remember the bewilderment of Watson when Sherlock Holmes made what seemed to be marvellous statements about his doings, and his surprise at the apparent simplicity of the methods.

But with this outside training—if it may be so called—must go the steady day by day observation of our patients, and with this there must be an honest reckoning of our mistakes. No part of the training is more essential. We all know the man who has made an incorrect diagnosis, but who, before the operation or post-mortem is over, has nearly convinced himself that he did make the correct diagnosis and before night is quite sure of it. For him no good has come from the lesson. To learn we must face the mistakes and try to find out why we made them. Then comes our gain. In this connection is an excellent saying, "It is easy to be wise after the event, but very difficult to be wiser," which can be illustrated by an example. A patient dies in whom you have made a diagnosis of typhoid fever, and on autopsy miliary tuberculosis is found. You are *wise* after the event, but the laboratory *Diener* or a first year student is just as wise as you. To be *wiser*, or in other words to lessen

the chance of your making the same mistake again, is quite another matter. You will certainly be no wiser if you have persuaded yourself that after all you did think it was miliary tuberculosis. For one's own training it is better to make an incorrect diagnosis than none at all—if you call yourself to account afterwards.

The second part of my subject—the inferences to be drawn from the observations—is a very different matter. Here the possibilities of error are much greater and what seems a simple diagnosis may involve complex inferences. A frequent mistake is to fail to recognize that there is any question of inference and to think that physical signs give a diagnosis directly. Take, for instance, the combination of diminished expansion of one side of the thorax, increased vocal fremitus, dullness and tubular breathing. We may say that we observe lobar pneumonia but we do not—that is only an inference which may be wrong.

No one can give rules for methods of thinking, but it is possible to carry certain principles into operation. One is to strive to be delivered from hasty judgments. "Men see a little, presume a good deal, and so jump to the conclusion." How common this is needs only a little study of our mental processes. In some this is a habit, in others a fault of education. Take, for instance, the men for whom the hearing of crepitant râles has only one meaning—pneumonia; not uncommonly the same man never grants the presence of pneumonia in the absence of such râles. Another point is to endeavor to cultivate the habit of orderly thinking exactly as of orderly examination. This should be within the power of the majority, and is worth every effort. As a rule it is possible in a problem of diagnosis to state all the possibilities and by exelusion narrow them down to one, possibly to two or more. In the latter event it becomes a matter of deciding as to probabilities, and even if we do not decide properly, at any rate we know the problem and are better able to know subsequently why we erred if we go wrong. Otherwise it is usually a more or less haphazard process of guess work. The assembling of possibilities and excluding one after another has all the delights of an intellectual game. Sometimes we are saved from error by our lack of knowledge of the finer points of the game. I well remember a fellow house-officer and myself being much interested in the diagnosis of an obscure abdominal condition. We went over it from every side and to the best of our ability, coming at last to a diagnosis. The attending physician was much interested and examined the patient very carefully, at last making a diagnosis which had never oven occurred

to us to consider. He suggested a rare condition which neither of us had ever seen, but we felt that consideration of it should not have escaped us. We were in a very humble frame of mind until the operation showed that our diagnosis had been right. It was so principally because the rare condition had not come to our minds. The moral of this is not that ignorance is an advantage. But some of us are too much attracted by the thought of rare things and forget the law of averages in diagnosis. There is a man who is very proud of having diagnosed a rare abdominal disease on several occasions. But as for some years he made this diagnosis in every obscure abdominal condition, of course being nearly always wrong, one cannot feel that he deserves much credit.

You may say, and properly so, that this address has dealt with simple things. But it is the simple things which require to be kept constantly before us and which must form the foundation of our diagnostic ability. I feel very strongly that it is the duty of teachers of medicine to insist on their students learning the simple clinical methods thoroughly and to impress them with the view that nothing can take the place of our own powers of investigation. The advances on the laboratory side and the perfection of instruments have added much to our powers of diagnosis, but they have given some men the idea that they are everything and the use of one's eyes and hands is looked on as old-fashioned. The man whose first idea in an obscure thoracic case is to have an X-ray plate taken and who cannot "bother" with physical signs does not deserve the name diagnostician. The safety with which the abdomen can be opened has led many men to neglect the principles of abdominal diagnosis for the short cut of an abdominal exploration. Many men are not willing to make the effort to arrive at a diagnosis by more laborious methods. Two examples of this are in my wards at this time; one man has had three abdominal sections in the effort to discover the source of his abdominal pain which a thorough physical examination would have shown to be a spondylitis with referred pains; the other has tabs with severe gastric crises, and his abdomen was opened by a surgeon who made the statement that a laparotomy was the quickest way to make a diagnosis. It was not in this case. To my mind accurate habits of working and thinking are a great safeguard against these supposed short cuts to diagnosis.

It is easy to criticize and point out the faults of others. The more we study our own errors the more sympathy we have for the mistakes of others. We should all have the desire to

reduce our errors to the minimum and to eliminate entirely those due to careless observations and slovenly habits of thinking.

To observe accurately, to reason clearly, to hold ourselves to as high a standard of efficiency as our equipment permits, are within the powers of all. The development of these depends on the man himself, and in this we may all be aided by a study and imitation of the methods of Zadig.

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## THE HISTOLOGICAL AND CLINICAL CHANGES INDUCED BY RADIUM IN CARCINOMA AND SARCOMA

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AND

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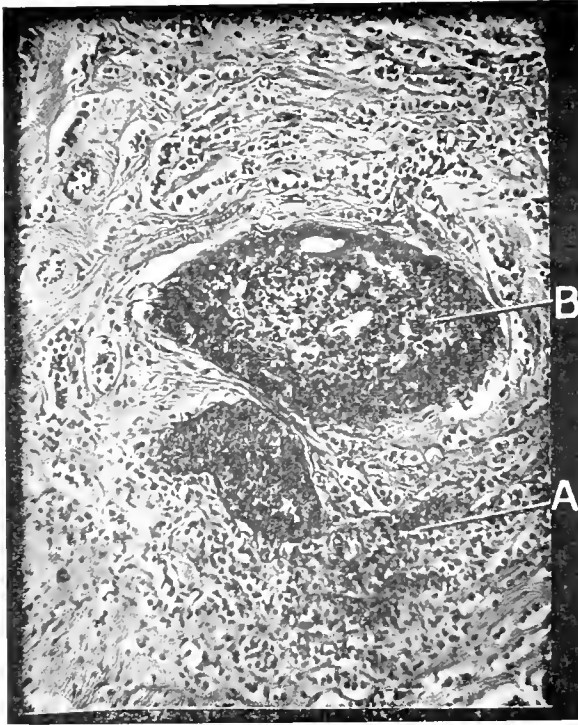
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The histological changes induced by the action of radium rays have been reported from time to time in medical literature. In order to confirm these for our own satisfaction a study was made of tissue removed from two cases under radium treatment, and careful observation made of the cellular changes.

The first case was one of adeno-carcinoma of the breast. This patient had been referred for radium treatment nearly two years ago by Dr. G. P. Sylvester. He had removed the right breast for carcinoma twelve years before. There had been no evidence of recurrence until the summer of 1912, when a mass appeared in the right axilla. An operation was performed at which as much as possible of this mass was removed. It was impossible to clean the axilla entirely as the growth was adherent to the large vessels. With the object of destroying that portion of the growth which could not be removed, radium exposures were given. When the treatment was begun there was a perceptible thickening of the axillary tissues and some considerable edema of the arm. Under treatment the parts regained their normal, the mass disappeared and the swelling of the arm subsided. This favorable condition of the right side has persisted, and there is now no evidence of malignancy in that region.

In March, of this year, the patient spoke of a lump in the left breast, and on examination, a hard mass of induration, about one and a half inches in diameter, about the nipple was found, together with an enlarged axillary gland. There was retraction of the nipple. The patient was advised to have immediate operation, but this she did not wish to undergo at the



SECTION I.

Adeno-carcinoma—Very deep in breast tissue.

A.—Cells affected by rays showing necrobiosis, necrosis and pycnosis.

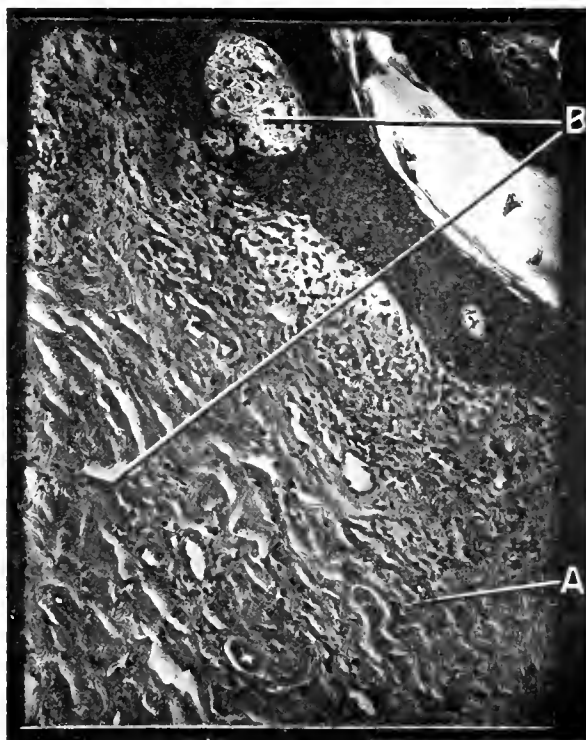
B.—Cells hypertrophied and vegetating.

hands of any other than Dr. Sylvester, so as a compromise it was decided to irradiate the parts, with the hope of retarding the progress of the disease until her surgeon's return. This was accordingly done by Dr. F. C. Harrison, a careful watch being kept over the condition until the end of May, when the breast was removed.

Portions were obtained for examination, and the pathologist's report indicates the effect of the radium rays on the cancer cells.

#### PATHOLOGIST'S REPORT.

A specimen of what proved to be an adeno-carcinoma of the breast was submitted to us after being subjected to the influence of radium. Vide sections I and II.



#### SECTION II.

Adeno-carcinoma of breast after Radium.

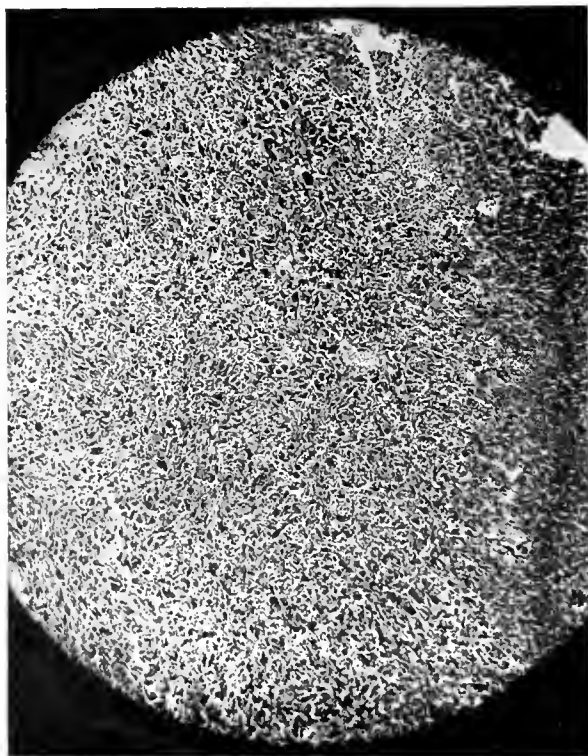
This section shows the effect of the trophic stimulus on the connective tissue, which thickens and the eosinophilic debris during absorption of growth

A.—Hypertrophied connective tissue.  
B.—Eosinophilic carcinomatous debris.

We found the upper portions of the skin which previously had been reported to be infiltrated with the growth to be totally free from any remains of malignant tissue. Deeper in the tissue, however, there seemed to have survived a diffuse growth, the

cells smaller as we neared the surface. These cells would also have been destroyed had radiation been continued.

We noticed that some of the carcinomatous cells were markedly hypertrophied, some were monstrous, some vegetative, whilst the protoplasm showed marked eosinophilia, proving beginning de-



SECTION III.

Before exposure to Radium.

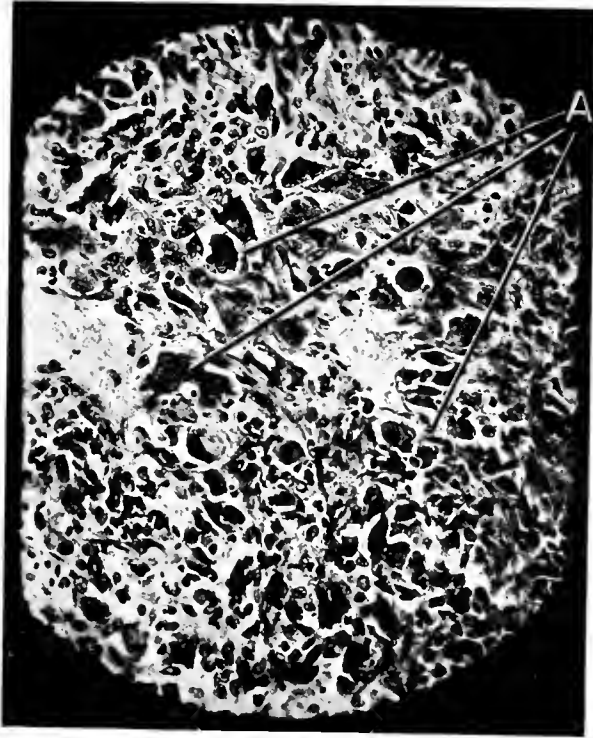
Low power view of sarcoma, showing large cells, irregular in size, shape and arrangement. Very little leucocytic infiltration is visible anywhere.

generation. The various tissue elements had become broken up and eosinophilic, young fibroblasts had evidently replaced the growth in the parts nearer the surface.

The second case from which we were able to obtain specimens was that of a railway fireman, twenty-eight years of age, referred by Drs. Bruce Riordan and R. A. Thomas. He received a blow over the right tibia in March, 1913. A swelling persisted

and was incised in January, 1914, under the impression that it was an abscess.

A report of the tissue examined was that it was a myeloid sarcoma, but the development of a secondary mass in the right groin indicated that it was of a more malignant type, and on a



SECTION IV.

Before Radium.

High power view of section of sarcoma. Note the huge cells, mitotic figures everywhere.

A.—Huge cells, vegetative type.

second examination the tumor was found to be a round-celled sarcoma. Dr. Riordan wished him to have the benefit of radium, although the case was most unfavorable owing to metastatic development.

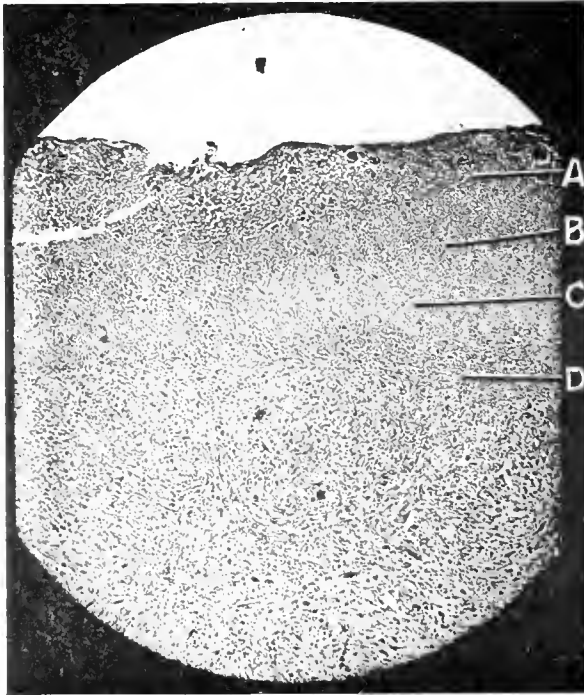
Radiation was accordingly undertaken, and three weeks later a portion of tissue was removed for examination from the primary lesion. The striking changes induced by the radium rays

are very apparent, and are particularized in the pathologist's report.

PATHOLOGICAL REPORT OF SPECIMEN.

The tissue consists of a portion of a large fungating growth removed from the anterior surface of the thigh.

The epidermal elements have completely disappeared and their place taken by a large fungating tumor which clinically is



SECTION V.

After exposure to Radium.

Low power view of sarcoma, showing marked changes.

A.—Intense leucocytic infiltration.

B.—Note decrease in size of tumor cells.

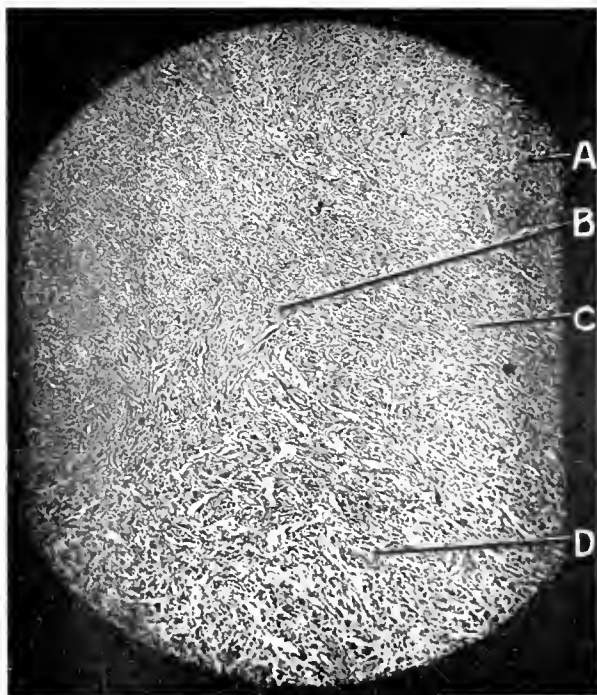
C.—Eosinophilic degenerative process.

D.—Connective tissue bundles arranging themselves in definite layers as result of radiation.

sarcomatous. On microscopic examination one sees that this is a large celled sarcoma with very large cells and a few spindle cells. The sarcomatous tissue infiltrates all around it, there is no tissue reaction, but a connective tissue stroma is present which is edematous and filled with a pigment which is evidently hemo-

siderin. The nuclei are often very large and measure about 16 x 15 microns. The size varies, but everywhere it shows mitotic figures and conform to all the characteristics of malignant sarcomata. Vide Sections III and IV.

On June 4th the tumor was exposed continuously to the radium rays, a dosage of 240 centigram hours being given, and on June 15th another portion was removed.



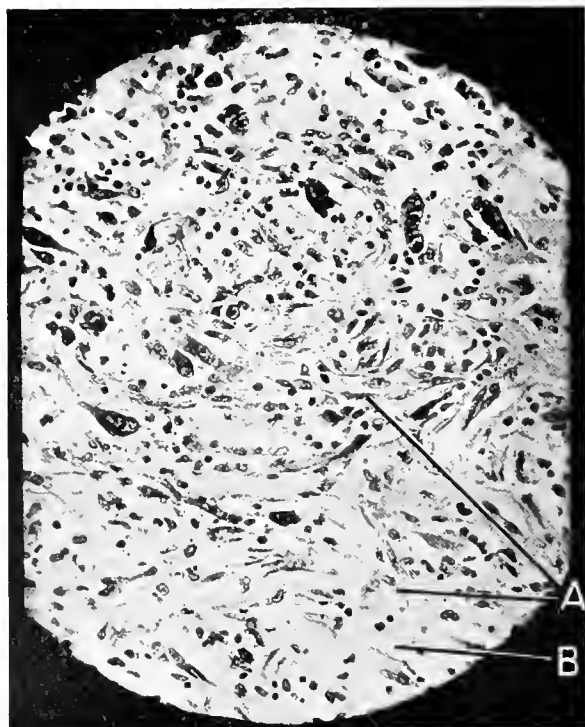
SECTION VI.

After exposure to Radium.

- A.—Intense round cell infiltration.
- B.—Note decrease in size and shape of cells.
- C.—Connective tissue and cells becoming arranged in definite layers.
- D.—Deeper portions of growth not completely influenced by radiation as yet.

Here we see wonderful changes. In place of the sarcomatous fungating mass we find a mass much reduced in size. (Sections V, VI and VII.) The large cells of the growth under the influence of the rays have changed to smaller connective tissue cells and spindle cells. The cells show necrosis and necrobiosis. The

connective tissue cells have been mobilized and also the leucocytic infiltration is most intense; due doubtless to the trophic stimulus the connective tissue has become vascularized not by a mere inflammatory reaction, but by a truly specific stimulus,



#### SECTION VII.

After Radium exposure.

High power view of section of sarcoma. Compare this section with Section IV to note the remarkable change.

- A.—Note complete change in type of cell from huge vegetative round cell to definite and regular smaller shaped cell, more adult in type. Connective tissue cell and spindle cells.
- B.—Myxomatous changes supervening in some parts of section.

which has expressed itself in the definite form of connective tissue elements.

From a review of the literature and study of our specimens we are forced to conclude and agree with other original workers that due to the influence of radium the tumor cells undergo

necrosis or necrobiosis. The connective tissue cells are mobilized and also leucocytic infiltration supervenes, due to the trophic phenomena stimulated, the connective tissue becomes vascularized in the usual way, not by a mere inflammatory repair, but by a true trophic stimulus which expresses itself in a definite form of connective tissue, with fibres parallel to the surface radiated.

On close perusal of the current and past literature we find meagre reports. On similar studies, however, Dominici and Barcat<sup>1</sup> experimentally produced radium burns and which on healing they showed to be composed of fibroblasts and connective tissue bundles parallel to each other and parallel to the surface of the skin. They found that the fixed cells became rarified, the chromoplasm of the parenchymal cell disappeared and becomes changed into hyaloplasm, the connective tissue bundles separating and the fibro blasts thickening.

Thus they also discovered that those portions of the tissue which had been subjected to radium become essentially differentiated from those not affected, by the alteration and regular direction of the connective tissue bundles.

Their texture is somewhat analagous to a flat fibroma with connective tissue bundles arranged in regular manner.

Degrais and Anslem Bellot<sup>2</sup>, in a recent article, pointed out that when epitheliomatous cells are exposed to radium there is a hypertrophy of the nucleus and degeneration of the protoplasm, and a certain amount of keratinization takes place. At later dates, 20 days or so after radiation, these epitheliomatous masses become transformed into keratinized debris. The formed elements break up and disintegrate; young fibroblasts and connective tissue cells, lymphatic cells and polymorphonuclear cells infiltrate the growth and carry on a phagocytic function, and meanwhile cicatrization occurs at the expense of the hyperplastic and regenerated stroma of the tumor.

In the Freiburg Clinic, Ashoff, Kronig and Gauss<sup>3</sup> obtained results similar to these. Kronig and Gauss<sup>4</sup> also report the disappearance of myomata by means of radiation of mesothorium. In a recent number of *Progressive Medicine*, a review of the article by Gauss<sup>5</sup> shows ten pieces of tissue excised from time to time during the course of treatment; these revealed such striking changes as in some instances to lead to a suspicion of a mixing of the specimens, so wonderful are the changes. For instance, one tissue at the beginning shows an adeno-carcinoma. Two weeks later it shows connective tissue and cancer nests. Three weeks later it shows benign tissue with epithelial debris.

Doderlein<sup>6</sup> has reported several cases where carcinomatous cells have necrosed, and it seems that the connective tissue takes a new life after being relieved of the products of carcinoma cells.

Teitschlaender<sup>7</sup> reports that with mesothorium the cells increase in size, lose their characteristic form and increase in the size of the nuclei. There is pyknosis, round celled infiltration and eosinophilia. Thus the chief action of mesothorium on carcinoma seems to be the inhibition of karyokinesis and activation of leucocytes and destructive changes, allowing the normal tissue to regenerate.

#### CONCLUSIONS.

In sarcomata the retrogression takes place according to the following law.

1. The size of the body and of the nucleus of the large cells decreases.
2. As they shrink the neoplastic elements elongate, the shape of the nucleus becomes regular, and they eventually assume the form of large embryonic connective tissue cells, forming into a celled mass similar to that of a true fibroma. Thus we may emphasize the fact that sarcomata are transformed by radium into a tissue analagous to that of a fibroma with myxomatous changes.

As regards epitheliomata and carcinomata, under the influence of the radium rays, the following change takes place:

1. The cells gradually diminish in size and staining properties.
2. This atrophy corresponds not to the metamorphosis of these definite formed elements, but to their destruction as shown by keratinization or absorption.
3. The epitheliomatous cells disappear either by means of progressive absorption of protoplasm and nuclei through the leucocytic infiltration or by a sort of granular degeneration.

The other processes associated with the development of every epithelial tumor are arrested, while vascular connective tissue is organized according to the method just described.

4. As proof that the changes initiated by radium in the tumors are such as to lead to immunity, great importance must be attached to the cellular infiltration, first leucocytic, then later a round celled infiltration. It has been recently shown these require different reactions of the tissue for their function, hence radium must affect the blood.<sup>8</sup> These infiltrations have always

been noted in all cases of experimental transplantation of malignant cells, and always accompany the cases in which the animal becomes immune and the tumor disintegrated<sup>8</sup>.

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**Tuberculosis.** — Kutschera (*Wiener klin. Wochen.*), advises the patient to drop the tuberculin on the skin and rub in with thumb until all has disappeared. This is the percutaneous treatment. It has proved particularly practical and effectual and protects against the flaring up of latent tuberculosis. The more potent subcutaneous technic, however, is advocated when the disease is manifest. For members of families exposed to tuberculosis, this percutaneous treatment is especially adapted. It is well to commence with one drop of a one-twenty-five dilution once a week. This is increased by one drop each for four weeks. When the four-drop dose is reached, a change should be made to a one-five dilution, and so on, finally using one drop up to four drops. This treatment must be kept up for two years after the last manifestations have subsided, and the inunction made at a different point each time. The patient may be seen by the physician once a month or every three months.

## THERAPEUTIC NOTES

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**Tuberculosis.** — E. G. Reeve (*Practitioner*), has treated patients with a morning dose of 20 grains of potassium iodide. Children down to three years stand this dose very well. The chlorine water is given regularly in three doses of one ounce each at the ordinary times. In early cases, a good prognosis may be given; great and lasting improvement in the advanced cases.

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**Scorbutus.** — E. Freise (*Monat. für Kinder*), reports the case of a child of eleven months clinically cured in seven weeks with a total administration of 13.79 gm. of an alcoholic extract of the common beet. It was given in the form of an emulsion in water, two c.c. of extract in 100 c.c. of water per day, added to which were a few drops of normal hydrochloric acid. Repeated Roentgen examinations showed extensive repair proceeding in the bones.

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**Tabes and Syphilis.** — Boggs and Snowden (*Arch. Int. Med.*), report eight cases treated by the intraspinal method. It would seem from these that the treatment is a step in advance. There was uniform relief from pain and definite improvement in locomotion. In some this was returned to normal. There was also marked psychic effect from this treatment. The quick relief of the pain so encouraged the patients that they more cheerfully used their legs to practise walking and stair-climbing.

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**Obesity.** — J. M. Anders (*N. Y. M. J.*), says this is a symptom rather than a pathological entity. Successful treatment demands the removal of underlying causative conditions. There should be painstaking inquiries to ascertain the cause. In persons predisposed to corpulency prophylactic measures are advised and encouraged. If there is a hereditary predisposition, the fat-forming substances must be restricted during childhood and adolescence; but the normal amount of fat may be allowed, as well as protein, where the young person takes an average amount of muscular exercise. For anemia, iron; and for imprudences in eating and drinking, correction. Physical torpor should be overcome by suitable exercise. The prevention of gouty and rheumatic dispositions is essential.

**Gastralgia.**—Schmizer gives several combinations for gastralgia in general. Of course any underlying causes of this condition, such as gastritis, cancer of the stomach, chlorosis, central nervous disease, etc., should be treated. Two of his combinations are as follows: Mentholis, grains xv; alcoholis, drachms vi; syrup, drachms v; aquae, ounces v— one tablespoonful every four hours. Extra belladonna folium, grains two-thirds; extract opii, grains, four-fifths; olei theobromatis, sufficient quantity to make one suppository. Directions: Insert one at beginning of the attack and repeat once, if necessary.

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**Gonorrhea.**—Fulton (*Northwest Medicine*) treats gonorrhea by means of the heated bougie held in the urethra thirty minutes at a temperature of 110 to 120° F. He maintains this temperature by running water at 120° F through a hollow bougie and allowing it to run out at 118° F. The mildest astringent injections are prescribed and pot. citrate internally. In acute cases, in the majority of them, one application, rarely two, are sufficient. There is a rapid disappearance of the gonococci. The discharge is rapidly changed to mucopurulent or mucoserous and generally in eight days it had disappeared.

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**Pyorrhea Alveolaris and Furunculosis.**—F. Tweddell (*Med. Rec.*), to prevent these conditions uses thirty to sixty drops of sulphuric acid, diluted in two to three ounces of water, three or four times daily, rinsing the mouth well after. Marked changes were noted in twenty-four hours; and the effect on boils and carbuncles was astonishing, the astringent action being wonderful. Small doses are of no use. After forty-eight hours, if there is no improvement, the dose should be increased. Treatment is seldom necessary more than eight or ten days, as the improvement is so rapid. Never were any gastric or other symptoms noticed.

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**Bladder Drainage.**—E. B. Claybrook (*Old Dom. Jour. Med. and Surgery*), believes it safer and simpler to use a good trocar instead of the usual needle. When the stylet is withdrawn, a soft-rubber catheter should be fed through the sleeve into the bladder. Then the sleeve should be withdrawn carefully over the catheter. A strip of adhesive should be wound around the catheter, one turn, and the two free ends fastened to the skin. There is no leakage, and when removed the sinus heals rapidly in two or three days if the urethra is freely open.

## Reviews

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*Pan-American Surgical and Medical Journal.* New Orleans, U.S.A.

This is a new monthly medical journal—a monthly review of surgery, medicine and the allied sciences, and is the official organ of the Louisiana State Medical Society. Its first number gives fine promise of its future activity and usefulness.

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*The Ileo-Cæcal Valve.* By A. H. RUTHERFORD, M.D., Edin. Price 6 shillings. London: H. K. Lewis.

There are two colored plates and twenty half-tone plates in this book. The illustrations comprise one-half of it. The literature on the ileo-cæcal valve is very fully reviewed. It constitutes a thesis submitted for the degree of M.D. to the University of Edinburgh.

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*International Clinics.* Volume II. Twenty-fourth Series, 1914. Philadelphia, London and Montreal (201 Unity Bldg.): J. B. Lippincott Company.

Six papers on diagnosis and treatment, three on medicine, eleven on surgery, two on obstetrics and one on the teaching of sex hygiene, constitute this volume. The volume is exceedingly well illustrated, and the papers are of the better class.

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*A Manual of Surgical Anatomy.* By CHARLES R. WHITTAKER, F.R.C.S. (Edin.), F.R.S.E. Senior Demonstrator of Anatomy, Surgeon's Hall, Edinburgh, etc. Second Edition. Revised and Enlarged. Price 6 shillings net. Edinburgh: E. & S. Livingstone.

The first edition of this work appeared in 1910, and was published at the request of his students. The new edition has enlarged the work by about 100 pages. The new edition is a book of 336 pages. It is concise and well arranged. The illustrations and diagrams are numerous and well arranged. It should be a very useful book for students in their final years at college. One has pleasure in recommending this work to the students.

W. W. J.

# Dominion Medical Monthly

And Ontario Medical Journal

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## COMMENT FROM MONTH TO MONTH

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A General Practitioner is not "accustomed," like the inhabi-  
tants of Drumtochty, but often "compelled" to break almost every  
law of health, especially in Canadian country districts. It is equally  
quite true he has wholesome food and plenty of fresh air, but then  
his life often has its limitations. The exacting demands of a busy  
country practice all too soon break down the health of the strong-  
est and more robust.

There died suddenly in Stratford, Ontario, on the afternoon of  
the eleventh of July, at the early age of forty-eight years, Dr. Fred  
Parker, a man who was the very embodiment of Ian MacLaren's  
William MacLure.

Entering Trinity Medical College at the beginning of the ses-  
sion of 1891-92, he applied himself so diligently to his studies that  
he was successful in carrying off the first scholarship in each year,  
the Special Prize in Physiology of the First Year, the Gold Medal  
of the Final Year, as well as the Gold Medal at Trinity University.

In the north country, at Bruce Mines, he began the practice of  
his profession. There his field was extensive and his work laborious.  
Ten years ago he removed to Milverton, near Stratford, and soon  
built up one of the largest general practices in all Ontario.

Strong of frame and big of heart, as he was of body, he spared not himself to the calls of suffering humanity. In the teeth of the bitter and biting blast, through the sleet and blinding snow, often night after night without sleep save that snatched in cutter or buggy driving home—the reins dangling at his horse's heels—now digging his horse from deep snowbanks, and again performing all sorts of unheard-of feats in pursuit of his duty, this big-hearted man gave his life for his patients.

A man of unusual common sense, replete with native wit and humor, an able speaker, a most entertaining companion, a firm, true and straightforward friend, it is not surprising that he was often solicited to try for Parliamentary honors. But he had chosen his life for humanity, and to that humanity he gave it.

The medical profession can ill afford to lose men of his calibre.

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**Industrial Insurance**, which involves medical examination of employees and prevention of sickness, should go hand in hand with workmen's compensation. In this age the watchword all along the line is prevention.

In Ontario there has recently been enacted workmen's compensation legislation, but not yet, either in Ontario, or in any other province, or city, has there been any attempt made to provide for the medical inspection necessary in any scheme of prevention of occupational diseases, save for a tentative survey in Toronto.

Once the employer of labor is convinced of the economic value of such a scheme to himself, then medical inspection of factories and other industries will rapidly come.

Of course, the great feature is as to how the burden of cost is to be divided. There are three beneficiaries under such a scheme: the state, the employer, and the employee. It is clear, then, each should bear a proportionate part of the cost of any plan projected.

Writing upon this subject, Dr. J. W. Schereschewsky, Surgeon, United States Public Health Service, sums up with the following conclusions:—

1. Industrial sickness insurance is an economic necessity in modern social evolution.

2. The basis upon which industrial insurance should rest is the prevention of illness and physical disabilities.

3. Frequent periodic physical examinations of workers constitute the logical means by which defects and diseases can be detected in their incipency.

4. The scope of such examinations should be extended to include home as well as factory conditions.

5. Industrial insurance based upon preventive measures should redound greatly to the benefit of society.

(a) by reducing the annual loss of time through illness;

(b) by establishing hygienic standards;

(c) by establishing minimum hygienic standards for industries.

(d) by favoring the enactment of uniform industrial legislation;

(e) by increasing the efficiency of local health authorities.

6. The cost of carrying industrial insurance based on preventive principles should be less than that of present systems.

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*The Examination of the Urine.* By A. FERGUS HEWAT, M.B., Ch.B., M.R.C.P. (Edin.), Tutor in Clinical Medicine, University of Edinburgh. Fifth Edition. Edinburgh: E. & S. Livingstone.

In a simple and concise manner are herein set forth brief notes on the examination of the urine, the blood, the sputum, pus, gastric contents, the feces. It is a small, compact book, and quite a practical one. There are several illustrations. Students and general practitioners will find it useful.

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*Abdominal Surgery.* Clinical Lectures for Students and Physicians. By THORKILD ROVSING, Professor of Clinical Surgery at the University of Copenhagen. Edited by Paul Munroe Pilcher, A.M., M.D., Brooklyn, New York. Philadelphia, London: J. B. Lippincott Co.; Montreal Office, 201 Unity Building.

This book of 500 pages is splendidly arranged, and consists of series of clinical lectures on the most modern methods of investigating diseases of the stomach and duodenum from a surgical standpoint. He handles his subject in a masterly way, and it is evident that he thoroughly understands the subject, and, in addition, is a clear and able teacher. This book is well worth careful study, and should be in the hands of every physician and surgeon. Roving has a world-wide reputation as a surgeon and as a teacher. This work will add to his already splendid reputation.

W. W. J.

## News Items

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M. J. Glass, M.D., Poplar Hill, Ontario, a graduate of Trinity in 1887, died on the 5th of July, aged 65 years.

Dr. O. C. Gruner, Assistant Pathologist in the University of McGill, Montreal, has resigned and returned to England.

Dr. Walter S. Bloor, Queen's University, Kingston, has been appointed Professor of Biological Chemistry at Harvard University.

Dr. Gordon G. Copeland, Toronto, after extensive study abroad, has commenced the practice of gynecology and obstetrics at 73 Bloor Street East, corner of Church St.

Dr. Edmund E. King, Toronto, is spending August at his summer home in Hastings County, Ontario. Much sympathy is expressed to Dr. King on the recent loss of another daughter.

The Canadian Public Health Association has issued a comprehensive circular of its fourth annual conference to be held in Fort William and Port Arthur on the 10th, 11th and 12th of September.

Dr. Keith Simon, who has recently been appointed Pathologist to Grace Hospital, Toronto, has opened offices at 653 Bloor Street West. Dr. Simon is prepared to carry out any pathological investigations for the profession.

Dr. J. Bruce Coleridge, Ingersoll, died recently in Woodstock. Dr. Coleridge, although still a very young man, 36 years, was recognized as one of the best speakers in the Conservative party in Western Ontario, and had been twice Mayor of his native town. He was an able practitioner and popular with his confreres.

The death of Albert Roberts Pyne, M.B., took place in Toronto on the 6th of July. He had been a Dominion Analyst since 1892 and was recognized the Dominion over as an expert in biological chemistry. He was a brother of the Hon. R. A. Pyne, the very popular Minister of Education in the Whitney Government.

The sympathy of this journal is extended to the *Canadian Journal of Medicine and Surgery* for the loss of its editor, Dr. J. J. Cassidy. Dr. Cassidy had been the editor since the foundation of the journal many years ago; and was recognized as an able writer, particularly upon public health matters, in which he took a strong interest.

Dr. Harvey Clare, Assistant Medical Superintendent of the Toronto Hospital for the Insane, has been appointed Medical Director of the new Reception Hospital for Observation and Treatment of Incipient and Suspected Mental Cases. The pavilion on the grounds of the old Toronto General Hospital has been fitted up for the purposes of this hospital.

# Dominion Medical Monthly

And Ontario Medical Journal

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## Original Articles

### THE USE AND ABUSE OF THE OBSTETRIC FORCEPS

By B. P. WATSON, M.D., CH.B., F.R.C.S.E.

Professor of Obstetrics and Gynecology, University of Toronto.

My first duty must be to thank you for the honor done me in being asked to address you to-night. I accepted the invitation with a feeling of great misgiving as to my ability adequately to discharge the duties required of me, and I must confess that this feeling did not diminish as my address began to take shape, and that perhaps it reaches its acme at the present moment, as I face this audience of my fellow practitioners.

In choosing a subject I had to bear in mind that it should be one of general interest, and at the same time one not too hackneyed. When I tell you that I propose to speak on the use of the obstetric forceps you may think that whilst the first condition is fulfilled, the second is hardly met. Yet it holds in obstetrics, as in other departments of medicine, that a review of the commoner lines of treatment is required from time to time. This is necessary, not only because our conception of the indications for such treatment becomes modified, but also because more modern methods may offer better and safer means of arriving at the desired result.

In no department of medicine is custom and routine so difficult to overcome as in obstetrics. We are afraid to step aside from the beaten path, lest if things go wrong we be blamed. The public requires to be educated, and the public is slow to learn. For these reasons therefore it is well that at such gatherings as this we should consider critically some of the commoner and more

\*Address in Obstetrics, read before the Ontario Medical Association, June, 1914.

ordinary procedures, and enquire whether we are getting from them all that they are capable of giving; whether recent advances may not have given us something which will better meet the case.

The obstetric forceps have been in use since the seventeenth century. There is no more fascinating story in the history of medicine than that telling of their invention and modification. Peter Chamberlen, who died in London in 1631, is generally given credit for their introduction. He was a member of a remarkable family of barber-surgeons and man-midwives, who were accoucheurs successively to the wives of Charles I., Charles II., James II. and William III. The secret of the forceps was carefully guarded in this family for a number of years, but was finally sold in Holland by a grand-nephew of the inventor.

These first instruments were very crude. In the intervening years they have been modified and improved, first by the addition of a pelvic curve, which enabled them to be used whilst the head was still high in the pelvic cavity, and later by the introduction of axis traction, by which the force exerted could be accurately directed. So that we have to-day in the modern axis traction forceps an instrument well nigh perfect for the work required of it. This very efficiency of the instrument is indeed one of its dangers, in that we may be led to expect too much of it.

There is demanded of every obstetrical operative procedure, first safety to the life of the mother, and a minimum of injury or bad after results, and secondly, the safety of the child. The operation we select in a given case demands in all instances the most careful consideration, and we must possess an accurate knowledge of its scope and limitations. The indications for forceps are so many, and they are so frequently employed, that in the exceptional case we are apt to expect too much of them, and so over-step the margin of safety above defined.

Let us consider some of the limitations which this margin of safety imposes. The first and most obvious contra-indication to their use is the absence of full dilation of the cervix. The forceps is an instrument for the second stage of labor; it has no place at all in the first. This is a rule laid down in every text-book of obstetrics, yet sometimes transgressed. The bad results of this too early application of the instrument may not be apparent at the time, but those of us who practise gynecology are only too familiar with them. There can be no doubt that the vast majority of deep lacerations of the cervix are produced in this way. A certain amount of laceration occurs in every first labor, and occasionally a deep tear may occur in an otherwise normal

delivery. But a careful history of the previous obstetrical experiences of the patients admitted to our gynecological wards leaves no doubt that the badly torn cervix, in the majority of instances, is the result of premature forceps application.

This is common knowledge, but it is not so generally recognized that other lesions may result, notably retro-displacement of the uterus and prolapse. The normal position of the uterus is maintained to a large extent by the firm tissue in the bases of the broad ligaments, connecting it with the side walls of the pelvis. Any stretching or relaxation of these fascial layers will result in uterine displacement. When forceps are applied to the head through an undilated cervix, and traction exerted, the margins of the cervix tend to contract. The pull is therefore exerted, not only on the child's head, but also on the uterus. Before the cervix gives way a very considerable strain may have been put on the fascia of the pelvis, which later manifests itself in uterine displacement. In this way is produced the clinical picture so often presented, torn perineum, torn cervix, prolapsed vaginal walls, and retro-displacement of the uterus.

Knowing the results likely to follow, are we then ever justified in applying forceps through the cervix not fully dilated? The answer, I think, must be *no*. If circumstances demand rapid delivery the cervix should first be dilated manually if it is soft and yielding, or incised in the middle line anteriorly or bilaterally, according to Dührssen's procedure, if it is rigid. Such incisions should, of course, be sutured immediately after delivery is effected. Mere prolongation of the first stage of labor, from whatever cause, never justifies forceps application for its completion. The child is seldom in danger in such circumstances. If the mother is becoming exhausted and tired out we have in morphine, combined with scopolamin, the means to give her rest. If the pains are feeble and ineffective pituitrin can generally be relied upon to strengthen them. A judicious exhibition of those three drugs in proper sequence robs the first stage of labor of most of its difficulties.

There has been considerable discussion in the past as to the indications for the application of forceps in the second stage of labor. The frequency with which they are applied varies with the individual operator, and differs in hospital and in private practice. We have lately very considerably diminished the number of forceps applications by the administration of pituitary extract. In 171 cases, delivered up to date in the public ward of the new Burnside Obstetrical Hospital, forceps have been ap-

plied only 38 times. Thirty-nine out of a total of 68 semi-private patients in the same hospital were delivered by the forceps operation.

Given certain conditions, there can be no doubt that a timely application of forceps saves the mother much suffering, whilst exposing her to a minimum of immediate injury and later morbid processes, and is not prejudicial to the child. The conditions necessary are that the presentation be a normal one that there be no disproportion between the pelvis and the fetal head, and that the head be engaged and well moulded. Under such circumstances labor would be terminated naturally if it were allowed to proceed, but we think it right to interfere in the belief that such interference will result in less injury than would otherwise occur. Provided a rigid aseptic technique is followed, there is practically no danger. If circumstances are such that rigid asepsis cannot be observed the case is better left to nature. That the head is engaged and well moulded implies that the second stage of labor has been in progress for some time. The moulding of the head is a most important factor in the mechanism, and its absence may make all the difference between a difficult and an easy forceps delivery.

When we have to deal with a case in which there is disproportion between the pelvis and the fetal head we are faced with a difficult problem. We must be guided by the extent of this disproportion rather than by pelvic measurements. Years ago Barbour pointed out that "the fetal head is the best pelvimeter." Müller showed us the importance of gauging the size of the pelvic inlet by pressing the head down into it, and later Munro Kerr described his method for ascertaining if there were any over-lapping when this was done. Kerr's method is to anaesthetise the patient, press down the head into the pelvic brim with the left hand, and with two fingers of the right hand in the vagina estimate the amount of engagement, and then ascertain the degree of over-lapping by palpating with the thumb along the pelvic brim.

Careful pelvic measurements must be made in every case, as from them we can form a rough estimate of the amount of difficulty likely to be encountered, and in the major degree of pelvic contraction get a definite indication for the best line of treatment. A conjugate diameter of less than three inches is an absolute indication for the performance of Cesarean section if a living child is to be born. It is in the pelvis with a conjugate diameter of between three inches and three and three-quarters

that we may be in doubt as to the best method of treatment to employ. In such the Müller-Kerr method is most valuable.

Let us look at the results we may expect from forceps delivery in such cases. With that degree of contraction the fetal head will still be movable about the brim during the first stage and early in the second stage of labor. To apply forceps to the floating head under such circumstances is to invite disaster. It is extremely unlikely that a living child will be delivered, and the risk of injury to the maternal passages is very great. Many authorities hold that forceps should never be applied under any circumstances to the head movable above the brim. Whilst some believe that there may be circumstances under which such a forceps application is justifiable, all are agreed that it is a serious operative procedure, and only to be undertaken under the most favorable auspices.

If, after taking all the conditions into consideration, the practitioner makes up his mind to allow the labor to proceed, and to aid delivery, if necessary, with forceps, it is most important to allow the second stage to be in progress for some time, and to give the head a chance to engage and mould. In a large proportion the labor will terminate naturally. In Little's series 80 per cent. of labors with a moderate degree of contraction of the pelvis delivered themselves spontaneously; in Schauta's 77 per cent.; in Buerger's 76 per cent. The fetal mortality in those cases, as pointed out by Boeninghausen, is about 1.5 per cent. for all types of contraction. Contrast these figures with the statistics of the high forceps operation. Munro Kerr in a series of 130 cases, gives the fetal mortality as 28 per cent.; Boeninghausen as 44 per cent. Harrar, in 17 cases, had a fetal mortality of 11.7 per cent. These figures are very striking, and form an irrefutable argument against the early application of forceps where there is some degree of disproportion between head and pelvis.

How then ought we to deal with a case where, owing to pelvic contraction, large size of fetal head, malposition, or other cause, the head fails to engage? The first point to observe is the most rigid attention to asepsis, and the limitation of the number of vaginal examinations, for we may have to resort to one of the major operations to effect delivery. With the patient under an anesthetic, a careful examination by the Müller-Kerr method ought to be made. If the head can be pushed down into the brim no great difficulty need be anticipated. If there be only a slight amount of over-lapping a successful termination without

recourse to operation, may be hoped for. If the over-lapping be great, delivery of a living child, either spontaneously or with the aid of forceps, will be impossible. In the latter instance resort should be had to Cæsarean section unless there is a likelihood that the patient is infected. In certain cases also pubiotomy may be the operation of choice. If the patient has been frequently examined, and especially if attempts have been made at delivery without the strictest precautions, craniotomy, even on a living child is justified.

When, from the absence of or slight degree of over-lapping, there is reason to suppose that delivery can be effected, the patient ought to be allowed to continue in the second stage for several hours. There should be no arbitrary limit to the duration of the second stage of labor. There can be no question that very considerable harm has been done by much of the teaching in the past that the second stage of labor must not be allowed to extend over a certain number of hours. So long as the mother is not becoming exhausted, the lower uterine segment not thinning out, and the fetal heart not becoming slow, labor may be allowed to proceed. As we have shown, a very large percentage will terminate spontaneously. In others forceps can be applied with ease and safety after the largest diameter of the head has passed the brim, and the head become fixed and moulded in the pelvis. In the flat pelvis this engagement of the head is greatly helped by placing the patient in the Walcher position.

The advantage of allowing the head time to mould and become fixed is well known by a type of case sometimes admitted to our Obstetrical Hospitals. The case where an application of forceps has been made by the practitioner in the patient's home without success. The patient is transported to the hospital: there forceps are again applied, and a fairly easy delivery effected, not because of any special skill on the part of the operator, but simply because further time has been given for the head to mould.

If, after a number of hours, the head fails to engage, a tentative application of forceps may be made. In some cases a moderate amount of traction may bring it down through the brim. No excessive force must be exerted, for it can only result in the death of the child and extensive laceration of the soft parts of the mother. If the circumstances are favorable pubiotomy may be performed: if not, craniotomy is the likely alternative, as Cæsarean section under such circumstances may be contra-indicated, owing to the risk of infection.

Let me illustrate what has been said by short accounts of one or two cases we have recently had in the Burnside Obstetrical Hospital.

Mrs. S., aged 33, primipara, was admitted to the hospital on March 11th in labor. The head was presenting in the right occipito-posterior position, and was not fixed in the pelvic brim. The pelvis was well proportioned and of fair size, with an estimated true conjugate of 10 centimetres. On pressing the head down into the pelvis there was a slight amount of over-lapping. The first stage progressed slowly, and morphine and hyoscyne were given on three occasions. The cervix was fully dilated at the end of twenty-four hours. After being five hours in the second stage there was no engagement of the head. Forceps were applied, but the head could not be made to advance. The fetal heart, after the application of the forceps, could not be heard, and craniotomy was performed. There was some laceration of the vagina and perineum, and the patient had a febrile puerperium, the temperature rising on several occasions to 101 deg.

H. H., aged 13, primipara, admitted to the hospital. Head presentation, R.O.P. position, head movable above the brim. Pelvis slightly contracted, estimated true conjugate of 9.5 centimetres. First stage completed in fourteen hours. Pains continued strongly in the second stage, but after four hours the head was not fixed, and the patient was somewhat exhausted. Forceps were applied, first before and then after rotation of the occiput to the front, but without success. The fetal heart was still strong, about 130 per minute, and as the patient had been handled very carefully throughout with a view to preventing the possibly of infection Cesarean section might have been undertaken at this stage. Owing to the youth of the patient, and what we knew regarding the paternity of the child, however, we deemed it unjustifiable. Version was performed, and the birth of the child effected by perforation of the after-coming head. This, in my experience, is sometimes an easier operation than perforation of the fore-coming head. There was some laceration of the perineum and vagina, and the puerperium was slightly febrile.

In contrast with these two unfortunate results of forceps application to the head above the brim, let me cite other two of practically the same type, where a happy result was obtained by Cesarean section.

Mrs. B., aged 23, primipara, two weeks overdue. Seen in consultation on account of non-engagement of the head in spite of strong labor pains. Pelvis normal in configuration: true con-

jugate estimated at 11 centimetres. The os was fully dilated, membranes unruptured. The head was large, freely movable above the brim, and overlapped when pressed down. The patient had only been examined once, and that with every precaution, before I saw her. Owing to the degree of over-lapping Cesarean section was advised, although the pelvic measurements did not seem to justify it. The operation was performed, and resulted in the birth of a healthy living child and a perfectly normal puerperium. The head of the child was large and firmly ossified.

Mrs. F., aged 24, primipara. Admitted to the hospital on April 11th in labor. The head was presenting L.O.A. position, freely movable above the brim. Some overlapping on pressing it down into the pelvis. True conjugate estimated at 10 centimetres. No flattening. The first stage progressed normally, and at twelve noon, the os being fully dilated, the membranes were ruptured. After four hour of strong labor pains the head was still unengaged. Having in mind our previous results with high forceps we elected to do Cesarean section. Mother and child both did well. The cause of the non-engagement of the head was at any rate partly due to the cord being coiled round the neck of the child five times, so preventing the descent. Had forceps been applied the death of the child would almost certainly have resulted.

In subsequent labors all of these patients may be delivered naturally, for in none was the amount of pelvic contraction great. It is not only in primiparous patients that we meet with these difficulties at the pelvic brim. They may arise in parous women, who have previously given birth to living children. In them, too, premature application of the forceps may have disastrous results.

Mrs. C., aged 43, 7-para. Seen in consultation on account of failure of the doctor to deliver with forceps. The patient's previous labors had terminated naturally. The pelvic measurements were normal; the true conjugate estimated at 10.5 centimetres. The first stage had lasted nearly forty-eight hours, the head was not fixed, and forceps had been applied for manual dilation of the cervix, but the head could not be made to advance. The patient was admitted to the hospital, and allowed to continue in labor for two hours. Forceps were then applied, although the head was still movable, because of the exhaustion of the patient. No advance could be made. With the amount of handling which this patient had had the only alternative was craniotomy. The hand was introduced into the uterus, with the intention of per-

forming version, to be followed by perforation of the after-coming head, when it was discovered that the uterus was ruptured through the lower segment. The abdomen was opened, the uterus incised, the child removed dead, and hysterectomy performed. The patient had a somewhat stormy convalescence, the temperature ranging around 101 deg. for several days. Ultimately she made a good recovery.

This is a type of case not infrequently met with in practice. The patients are usually elderly and stout. Previous pregnancies and labors have resulted in thinning and weakening of the uterine wall. The first stage is apt to be prolonged, so that the second stage pains are ineffective, and the head fails to engage. Thinning of the lower uterine segment readily occurs if there is the slightest disproportion between head and pelvic brim. So that we cannot allow the second stage to proceed for many hours. We are put off our guard by the previous obstetric history, and think that we shall have no difficulty in effecting delivery with forceps. If we are deceived in this, and find that the head will not engage with moderate traction, recourse should at once be had to the craniotomy or Cesarean section if circumstances be favorable.

Mention has not been made of version as an alternative to the application of high forceps, or as a means of treatment when the high forceps operation fails to effect delivery. Our experience with this, in common with that of other obstetricians, is that the fetal mortality is even higher than after the high forceps operation. Harrar reports a fetal mortality of 13.7 per cent. in 51 versions on living children. Taylor, in 260 cases of pelvic deformity, reports an infant mortality of 46.6 per cent. after version, 25 per cent. after high forceps. We have on two occasions known rupture of the uterus to occur as the result of attempted version after high forceps failed.

Let us then try to sum up the situation in those border-line cases where, with a pelvis normal in size or slightly contracted, there is a disproportion between the fetal head and the pelvic brim, and the head has failed to engage at the beginning of the second stage. Immediate application of forceps will result in death of the child in at least one-quarter of the cases, and there will be a maternal mortality of from 1 to 5 per cent., and a morbidity which is difficult to estimate, but which is certainly very high. If the labor be allowed to continue without interference, spontaneous delivery will occur in about 75 or 80 per cent. of the cases, with a fetal mortality of between 1 and 2 per cent. Cesarean section, performed before any attempt has been made

to deliver with forceps, should give a practically negligible fetal mortality, and a maternal mortality of 2 or 3 per cent. The performance of the operation after one tentative application of the instrument, provided this and all previous manipulations have been done with aseptic precautions, gives almost equally good results.

The conclusion is inevitable that in those cases where the disproportion is slight, the best results for mother and child will be obtained by allowing labor to continue until spontaneous delivery occurs, or until the head has entered the pelvic cavity, when forceps may safely be applied. Where the disproportion is greater Cesarean section, performed as early as possible, will give the best results. If spontaneous delivery does not occur, and the head does not enter the brim, one attempt at forceps delivery may be made, but extreme force must not be used. Failure of the head to come through should be followed by Cesarean section, pubiotomy or craniotomy, according to the circumstances of the case.

It ought to be recognized that these are formidable cases to deal with, and the best results can be obtained only if the patient is in a well-equipped hospital, where the practitioner's hand is not forced by the well meant, but unwise, demands of the patient's friends for him to intervene with the object of cutting short her suffering; where he can conduct every manipulation with the strictest asepsis, and where he has facilities for performing instantly any one of the major operations mentioned. Among major operations high forceps ought to be included. Obstetrics is a branch of surgery, and the same care and skill are demanded of the obstetrician as of the surgeon if the best results are to be obtained. If this were more fully recognized by the public and the profession there would result an enormous saving of infant life, a greatly lowered maternal mortality, and a vast diminution in the number of lesions demanding operative treatment at a later stage, and so often resulting in permanent impairment of health and usefulness.

## THERAPEUTIC NOTES

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**Follicular Tonsillitis.**—W. Lapat (*Medical Record*) employs hydrogen peroxide on a cotton applicator to remove the patches. With another applicator he inserts into the crypts a five per cent. solution of tincture of iodine, taking care that none of it flows into the pharynx. Applications are made twice a day on the first two days, and the patient is given an ichthyol spray to use every two hours.

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**Uncomplicated Tuberculous Foci in Bones.**—Huntington (*Annals of Surgery*) thoroughly exposes and clears out the focus, packing the cavity with camphor-phenol gauze. In a few days the amount of packing is reduced and then entirely dispensed with, when the bone cavity remaining may be filled with Beck's paste or the Mosteg-Moorhaf wax. The wound is then closed and fixation secured by a loosely applied plaster-of-paris dressing.

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**Progressive Deafness.**—Grodénigo (*Presse Otol.*) finds a rational basis for the administration of calcium salts as a therapeutic measure, as the deafness of pregnancy and lactation is the result of changes in the thyroid and parathyroids. He employed about three grains of the chloride or lactate of calcium in daily doses, with excellent results. As the hypodermic method frequently leads to abscess formation, it is considered dangerous.

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**Nasal Deformity.**—O. A. Lothrop (*Boston Med. and Surg. Jour.*) removed a strip of bone two inches long and one-twenty-fifth of an inch wide from the free vertebral border of the scapula with cutting forceps and wrapped in wet, sterile gauze. Great care was taken not to denude this strip of bone of its periosteal covering. A subdermal passage-way was made in the nose bridge extending to the distal extremity of the nasal bone. The periosteum was cut and elevated along the crest of the nose bridge up to the frontal bone. The nasal bones were ground down with a rasp and the graft inserted. In three weeks the graft was quite solid; in four weeks it was rigid and the dressing omitted.

**Tuberculous Peritonitis.**—H. Lawrie (*B. M. J.*) has found the following mixture of decided benefit in two serious cases of tuberculous peritonitis: Calcii carbonitis precipitate, drs. two; creosote, dr. one-half; mucil. trag., pot. iodidi, of each, grs. fifteen; benzosulphimide grs. eight; olei, menth pip., minimis five; aquam ad., ounces eight; two drs. every four hours for a child five years of age.

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**Chronic Leucorrhea.**—A. H. Curtis (*Surg. Gyn. and Obs.*) urges care of the general health, free elimination, and the treatment of any mild pelvic inflammations present. Treatment of the endometrium can ordinarily be dispensed with. Unusual cases require dilatation for drainage and topical applications. Curettement is probably harmful. Vaccines are beneficial in chronic purulent discharges, some being helped only when these are administered. The treatment which accomplishes the best results consists in the continued use of the autogenous vaccines and dry cleansing of the vagina, and powder applications.

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**Empyema.**—R. de Bovis (*Semaine Médicale*) says the incision must be made as far down on the chest as possible—generally in the ninth intercostal space—encroaching slightly on the dorsal region and not be exclusively lateral. Complete exclusion of air from the cavity is not an actual necessity, and opinions differ as to drainage by aspiration and the "open door" method. De Bovis has tried to do without gauze wisps, tubes, etc., simply applying an external dressing to the pleurotomy wound. In two non-tuberculous cases this was successful. The entrance of germs is hindered by the dressing. The chief requisite is the low incision.

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**Toxemia of Pregnancy.**—Ellice Macdonald (*Med. Rec.*), has treated twelve cases of toxic vomiting of pregnancy by the use of a small rubber tube thrust into the empty stomach after anesthetizing the pharynx. When the tube is down about twenty-two inches, eight ounces of a solution of sodium chloride, slightly stronger than the normal solution, are injected. Then the tube is passed further down to about twenty-eight inches. The patient is now placed upon her right side, in a semiprone posi-

tion, and suction made by a vacuum bottle and syringe to withdraw some of the contents. With a gravity can an injection is then made of a solution of granular sodium sulphite, about four to six grams to a litre. This solution precipitates itself through the intestines and appears at the anus in thirty minutes. Good results have been obtained.

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**Chronic Intestinal Stasis.**—W. A. Bastedo (*J. A. M. A.*) thus sums up the treatment of chronic intestinal stasis: Regularity of defecation, measures to improve intra-abdominal pressure, measures to increase peristaltic activity, and measures to increase the bulk and softness of the colon contents. In the average case attention to the habits of life and to the amount and kind of food, and the administration of a softening agent or a very mild laxative will be effective in overcoming the stasis, and, therefore, the toxemia. In severe cases, the addition of an oil enema at night may work a marvellous change for the better. In these chronic cases the drastic cathartics should be omitted from use. If measures such as those spoken of, when carried out thoroughly, do not overcome the stasis and the toxemia, the question of surgery should be seriously considered.

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**Retrodisplacements of Uterus.**—A. Flint, Jr. (*Am. Jour. Obs. and Dis. Women and Children*) advises treatment to be begun at once when retrodisplacements occur. The results are universally good when the uterus, ligaments, vagina and pelvic floors are still subinvolved, that is, if the condition did not exist prior to pregnancy. Occurring between the second and third week of the puerperium, the treatment should be hot douches, the internal administration of ergot, and the knee-chest posture. Between the fourth and sixth weeks, in addition, tampons of glycerotannin should be used every third or fourth day. Before the end of the sixth week a pessary should not be used. Should the displacement recur and the uterus be larger than normal, a round elastic ring pessary will hold the uterus up comfortably. This should be changed in three or four weeks to the ordinary hard-rubber retroversion pessary. During the wearing of a pessary the patient should assume the knee-chest position for five minutes twice a day, douching once a day.

## Reviews

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*Collected Papers from The Research Laboratory of Parke, Davis and Co., Detroit, Mich.*

This is the second volume of Reprints to issue from Parke, Davis & Co. of the valuable work done in their laboratories. There are many charts and illustrations.

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*Diseases of the Labyrinth.* By ERIC RUTHIN, of the University of Vienna; with a Foreword by PROFESSOR VICTOR URETSCHITSCH. Authorized Translation by HORACE NEWHART, A.B., M.D., Instructor in Otology, University of Minnesota. With 25 Textual Figures. Price, \$2.00. New York: Reiman Company.

Many Americans have followed the clinics of Professor Ruthin in Vienna in days past, and will now be able to possess a monograph in the English language. It embraces the recent progress in the diagnosis and treatment of labyrinthine complications. It will materially help to recognize these conditions.

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*Serology of Nervous and Mental Diseases.* By D. M. KAPLAN, M.D., Director of Clinical and Research Laboratories of the Neurological Institute, New York City. Octavo of 346 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$3.50 net. Sole Canadian agents, The J. F. Hartz Co., Limited, Toronto.

The fact that there was not heretofore any American work covering this subject is the reason for its calling into existence. Neurologists and psychiatrists, as well as those interested specially in these branches of medicine, will appreciate its production.

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*International Clinics.* Volume II. Twenty-fourth Series, 1914. Philadelphia, London, and Montreal: J. B. Lippincott Company.

Six papers on diagnosis and treatment; three on medicine; eleven on surgery; two on obstetrics; one on child welfare, make up this volume. As usual, the volume is profusely illustrated.

*Diseases of Bones and Joints.* By LEONARD W. ELY, M.D., Associate Professor of Surgery, Leland Stanford Junior Univ., San Francisco, Cal. Sextodecimo: 220 pages, 94 illustrations. Surgery Publishing Co., New York. Price, cloth, \$2.00.

This book is intended primarily for the general practitioner, but instead of furnishing that long-suffering and very important person with a mass of details, and with many methods of treatment from which he may choose, the book lays down broad general principles, with the evidence upon which they are based, and then shows how these principles may be applied.

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*Guiding Principles in Surgical Practice.* By FREDERICK-EMIL NELLE, B.S., M.L., M.D. Adjunct Prof. of Gynecology, Fordham University School of Med., New York City. Sextodecimo: 180 pages. Surgery Publishing Co., New York. Price, cloth, \$1.50.

The viewpoint of this book is based on clinical studies in the operating-room and at the bedside of the patient. The book covers the practical points in the preparation of the patient for an operation, the arrangement of the operating-room, the important relations between the surgeon and his anesthetist, the assistant, the family physician, the nurse during the course of the operation, also the care of the case.

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*Gas Poisoning in Mining and other Industries.* By JOHN GLAISTER, M.D. (Glas.), D.P.H. (Camb.), F.R.S.E., etc., etc., Professor of Forensic Medicine and Public Health in the University of Glasgow, etc.; and DAVID DALE LOGAN, M.D. (Glas.), D.P.H., Surgeon to the Coltness Iron Works. With Plans, Colored Plates, and Thirty-six other Illustrations. Edinburgh: E. and S. Livingstone.

This is another example of the timely literature of the day with which medical men in Canada will do well to provide themselves. It is comprehensive, and goes thoroughly into all phases of gas poisoning, particularly that from carbon monoxide. While the subject has been treated of from time to time in various papers and monographs, this book gathers together all the valuable knowledge extant upon the subject. That both authors have considerable practical experience with their subject adds materially to the value of their production.

*A Treatise on Clinical Medicine.* By WILLIAM HANNA THOMSON, M.D., LL.D., formerly Professor of Practice of Medicine and of Diseases of the Nervous System in the New York University Medical College; Ex-President of the New York Academy of Medicine, etc. Octavo volume of 667 pages. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$5.00. Half-morocco, \$6.50. Sole Canadian agents, The J. F. Hartz Co., Limited, Toronto.

Reading this book, one is struck by the fact that the writer has been a very careful observer. There are many exceedingly practical points of the utmost value in determining diagnoses. The other striking characteristic is the authoritative pronouncements upon treatment. There are no long lists of various remedies to choose from, but a concise statement of what the author has found best in each condition. This stamps individuality upon the book. No book of recent production on medicine has so pleased the reviewer from the viewpoint of practicability. If every one finds Professor Thomson's prescriptions as applicable and fitting as he has apparently done, there should be added success in every man's practice.

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*The Occupational Diseases: Their Causation, Symptoms, Treatment and Prevention.* By W. GILMAN THOMPSON, M.D., Professor of Medicine, Cornell University College, New York City; Visiting Physician to Belleville Hospital. Illustrated. New York and London: D. Appleton and Company.

In Canada, the enactment of the workmen's compensation legislation in Ontario, and the likelihood of similar legislation following in the other provinces, marks a new departure in medicine. Diseases, in many instances, will more and more become to be looked at from the standpoint of the occupation.

While there have been several books published upon these and kindred subjects, not in America, as yet, has any medical literature been issued upon these subjects. Therefore, medical men will welcome this new book by Professor Thompson, who has long been identified with this class of diseases. From his practical experience it was to have been expected that a good book would emanate. It is exceedingly well-arranged, strikingly illustrated, and the subject matter clearly set forth. The whole subject is gone into in a systematic manner, and our readers may be assured they are getting the best there is on the market.

# Dominion Medical Monthly

And Ontario Medical Journal

## EDITED BY

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## COMMENT FROM MONTH TO MONTH

**The Ontario Territorial Elections** to the Medical Council are to take place on the first day of December, and nominations are to be received up to the 13th day of November.

Whilst in no wise wishing to make these political, it would seem to be very important that, where any changes in representation are contemplated, prominent medical men in close touch with the powers that be, should be invariably elected.

Within the lifetime of the next Medical Council important changes will, no doubt, be enacted in the laws governing the practice of medicine in this province, and there is need for the best possible representatives on the Council.

It is to be hoped that a strong, able, and active body will be elected to press for those reforms so urgently needed.

**Preventive Medicine** will take a foremost part in the present great European war.

The fact that the Imperial authorities have called upon Sir William Osler to sound a clarion warning is significant.

It is significant, too, that the great overwhelming, preponderating good sense of the state places the responsibility for the prevention of disease and the care of the wounded upon regular scientific medicine. The people should take it well to heart that much is anticipated and will be got from that profession. The quacks have not been called into service.

Dysentery, diarrhea, typhoid, pneumonia are the quartette to be combated. The people can thank scientific medicine that the European armies are well-protected against smallpox; and malaria, too, will be well looked after.

There will be every effort put forth by scientific medicine that mortality and morbidity in the armies will be due to the legitimate results—the killing and wounding by weapons—rather than by diseases.

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**Gonorrhea.**—A new treatment of gonorrhea is put forward by Dr. Mulet, Paris, France. It is a mixture of tincture of iodine and sterilized oil (5-100). At the first injection, which should be maintained in the urethra for five minutes, there is a little pain, but this gradually disappears as the injections are repeated. It is claimed the running ceases in from two to three days and that at the end of a week the cure seems complete. The injections are given three times a day for the first two or three days, then one is given in the middle of the day, and in the morning and again in the evening an astringent injection of sulphophenate of zinc or some other astringent.

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**Third Stage of Labor.**—F. Anfield (*Zeits. für Geburts. and Gyn.*), compares statistics at European maternities with those at Marburg, and states the advantage is with the expectant treatment. After delivery the first fifteen minutes belong to the woman alone; during the second fifteen minutes the mother and child can be supervised. After this the mother should be inspected every five minutes and fresh linen placed on the vulva each time. The placenta will become detached sooner and more completely the less the uterus is manipulated after the expulsion of the child. An hour and a half or two hours should be allowed to pass before any attempt is made to remove the placenta. By this time it should be lying low down in the vagina. Slight pressure from without will then readily expel it. Inspection every five minutes guards against any surprise in hemorrhage.

## Editorial Notes

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### ONTARIO MEDICAL ASSOCIATION

The next meeting of the Ontario Medical Association will be held in Peterborough in May, 1915. Arrangements are now being made to have this annual meeting in conjunction with the Medical Health Officers' Association, so that the attendance will be large and members will be sure of reduced fares on the railroads. The following is a list of the committees:—

President, D. J. Gibb Wishart, Toronto.

#### COMMITTEES.

*Arrangements.*—T. W. H. Young, Chairman; N. H. Sutton, Secretary; J. H. Eastwood, D. C. King, B. E. Kelly, all of Peterborough; R. H. Bonmycastle, Campbellford; H. A. Turner, Millbrook; W. A. Ross, Barrie; J. Holdcroft, Havelock, and W. G. Collison, Lindsay.

*Papers and Business.*—H. J. Hamilton, Toronto, Chairman; G. S. Cameron, Peterboro, Vice-Chairman; Geo. B. Strathy, Toronto, Secretary; A. W. McPherson, Peterboro, Local Secretary; T. N. Greer, J. A. Morgan, J. V. Gallivan, J. M. McCulloch, and D. N. Carmichael, all of Peterboro, and the Chairmen and Secretaries of the Sections, as follows:—

*Surgery.*—C. L. Starr, Toronto, Chairman; F. P. McNulty, Peterboro, Local Chairman; A. Moorehead, Toronto, Secretary; E. V. Frederick, Peterboro, Local Secretary.

*Medicine.*—A. R. Gordon, Toronto, Chairman; F. C. Neal, Peterboro, Local Chairman; Geo. S. Strathy, Toronto, Secretary; L. S. Hammond, Peterboro, Local Secretary.

*Obstetrics and Gynecology.*—W. D. Scott, Peterboro, Chairman; A. Moir, Peterboro, Secretary.

*Eye, Ear, Throat and Nose.*—N. D. Buchanan, Peterboro, Chairman; W. W. McKinley, Port Hope, Secretary; General Secretary, F. Arnold Clarkson, 121 Bloor St. W., Toronto; Local Secretary, J. B. Mann, Peterboro.

*Credentials.*—W. K. Colbeck, Welland, Chairman; J. W. S. McCullough, Toronto; S. H. McCoy, Toronto; T. N. Greer, Peterboro; A. H. Hore, Markham; D. N. Carmichael, Peterboro.

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*Publication.*—W. A. Young, Toronto, Chairman; J. Ferguson, Toronto; J. T. Fotheringham, Toronto; R. W. Powell, Ottawa.

*By-laws.*—J. H. McGarry, Niagara Falls, Chairman; J. Malloch, Toronto; W. T. Connell, Kingston; C. P. Lusk, Toronto; A. R. Gordon, Toronto; B. C. Bell, Brantford.

*Ethics.*—J. L. Bradley, Creemore, Chairman; J. D. Ivey, Cobourg; E. T. Kellam, Niagara Falls; S. Johnston, Toronto; C. H. Bird, Gananoque; W. T. Parke, Woodstock; D. S. Hoig, Oshawa.

*Executive.*—The President, Secretary and Treasurer ex-officio; G. S. Cameron, Peterboro; R. R. Wallace, Hamilton.

*Necrology.*—J. H. Elliott, Toronto, Chairman; W. H. Cameron, Comiston; Lorne Robertson, Stratford.

*Audit.*—J. A. Amyot, Toronto, Chairman; G. Boyd, Toronto; J. M. Rogers, Ingersoll; E. E. Harvey, Norwich; A. McKinnon, Guelph; C. Meyers, Toronto; F. N. G. Starr, Toronto; R. J. Wilson, Toronto; D. E. Mundell, Kingston; F. Williams, Bracebridge.

### CANADIAN PHYSICIANS AT VALCARTIER

Those of Toronto who have already given up their incomes and means of livelihood at the call of duty are as follows:

Lt.-Col. D. W. McPherson, D.A.D.M.S., 2nd Div.

No. X, Field Ambulance—O.C., Major W. B. Hendry, Lieuts. H. L. Jackes and A. S. Lawson.

No. XI, Field Ambulance—O.C., Major C. J. Currie, Major E. B. Hardy, Captains H. R. Holme, J. H. Wood, W. L. C. McBeth and H. Orr.

No. XIII, Cavalry Field Ambulance—O.C., Major Wallace Scott, and Captains R. S. Pentecost, G. R. Philp and N. J. L. Yellowlees, and Lieut. W. T. H. McLean.

From Hamilton—Nos. XII, and XIX, Field Ambulances will come under command respectively of Major G. D. Farmer and Major J. E. Davey.

From London—No. XV, Field Ambulance—O.C., Major E. G. Davis.

From Sarnia—No. XIV, Field Ambulance—O.C., Major D. B. Bentley.

No. 1 Field Ambulance proceeded to Valcartier on the 31st August, in command of Lt.-Colonel D. W. McPherson, with the following officers: Major W. Scott, Capt. P. K. Menzies, Capt. J. C. Calloun, Capt. P. G. Brown, Capt. G. Hyland, Capt. W. H. Fox, Lieut. T. H. McKillip, Lieut. H. B. Jeffs, Lieut. O. J. C. Withrow. Number of rank and file, 199.

On the above date No. 1 Clearing Hospital also proceeded to Valcartier, the officers being Capt. C. E. Cole and Capt. G. W. O. Dowsley. Number of rank and file, 40.

On the 6th September No. 1 Stationary Hospital proceeded to Valcartier, in command of Major D. B. Bentley, with the following officers: Capt. W. H. Tytler, Capt. W. Bethune, Capt. J. J. Fraser, Capt. W. A. Burgess, Capt. S. Ellis, Lieut. J. N. Stewart, Lieut. F. S. Ruttan, Lieut. G. Stewart. Number of rank and file, 130.

On the above date the No. 1 General Hospital also proceeded to Valcartier in command of Major E. B. Hardy, with the following officers: Capt. R. H. Nicholls, Q.M., Capt. R. S. Pentecost, Capt. G. R. Philp, Capt. W. L. C. McBeth, Capt. J. H. Wood, Lieut. F. S. Burke, Lieut. G. C. Gliddon. Number of rank and file, 111

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### McGILL GRADUATES AND THE WAR SITUATION

The following letter has been sent to every McGill graduate:

At a time like the present, when the destiny of the Empire is at stake, McGill University and its graduates should come forward and do everything in their power to help the common cause. The individual graduate probably does not fully realize the influence the graduates as a whole have in Canadian affairs. Over 5,000 educated men, holding important positions all over the Dominion and elsewhere, are a tremendous power and influence, particularly if their efforts are concentrated on certain fixed objects.

It was felt by the Executive of the Graduates' Society and by the Committee in charge of the Reunion, which it had been proposed to hold in the Fall of 1915, that in the present crisis in the Empire, something should be done; and it was decided to write a letter to every graduate asking him to use all his influence towards patriotic ends.

In order to make our influence felt in a definite way it was thought that a fund should be started to which *every* graduate

of the university should contribute. The contribution of each individual would be for the nominal amount of *One Dollar*, which would represent his patriotic vote and the signification of his intention to do everything possible to assist Canada in the responsibility and duty created by the war.

The vote of the McGill graduates will be deposited in cash form to the credit of the Canadian National Patriotic Fund.

You are therefore invited to fill in and return the accompanying cheque form, which will be cashed at par, or to enclose one dollar in some other form.

An immediate response is necessary if this action is to have all the effect that is hoped for from it.

For the Executive,

JOHN L. TODD,

President.

WILLIAM STEWART,

Secretary.

It may be that some letters have not reached their destination. Remittances should be addressed to Mr. Geo. C. McDonald, 179 St. James Street, Montreal.

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### A HUMAN SKELETON ONE HUNDRED AND FIFTY THOUSAND YEARS OLD

Dr. Hans Reck, of Berlin, has discovered, at Oldoway, in the north of German East Africa, the skeleton of a man who lived, in all probability, some 150,000 years ago. The photographs reproduced were supplied by the doctor to the *Illustrated London News* and were accompanied by a note to the editor of that weekly. The following translation is from the German:

The rare animal fossils of the Tertiary Period yielded by Africa decided the Geological-Palaontological Institute and Museum of the University of Berlin to excavate the Oldoway "pit." In three months, some 1,700 bones were found and taken to the expedition's camp, there to be sheltered carefully under primitive, straw-roofed huts until they could be numbered, classified, and packed for their long journey. The huts in question were full of bones and huge relics of elephants. Most of the tusks discovered were surprisingly long, very light, and straight. The

best was 3.8 meters (10 feet 5 inches) in length. Then there were represented the rhinoceros, the hippopotamus, numerous antelopes and gazelles, as well as pigs, rodents, and beasts of prey.

It was frequently difficult to obtain the bones. Not only was there a dearth of water and a blazing sun, but wild animals would arrive unexpectedly and disturb the diggers. Rhinoceroses, in particular, chased the men from time to time, sending them running through the trees and holding them prisoners for hours. The crumbling walls of the pit provided another obstacle. A precious relic would be seen in about the middle of the 50-foot wall, and those seeking it would have to be lowered by ropes, or rude ladders would have to be made, and so set that the "find" could be reached. When, by good fortune, a place was found upon which a man could stand, the task was easier, for the natural "platform" could be enlarged by the pick.

One day brought with it a great surprise. On the steep incline of the "pit," the excavators found signs of a human skeleton, which was soon laid bare and protected by a straw roof. The discovery was seen to be of extreme age, and in a remarkably fine condition. The stratum about it was undisturbed, proof that it owed its position not to having been buried at the bottom of a hole dug down through several strata, but to having been contemporaneous with the stratum in which it rested. And that stratum is so old geologically that the skeleton must date at least from the Diluvial Period of Africa, which, it may be noted, synchronizes with the Ice Period of Northern Europe. No more precise date can be assigned to it until it has been compared with fossils found during the same excavations. It is typically negroid, and the first fossil human form found at Oldoway. The skull is highly developed, narrow and long; the head is set deep in the shoulders; the chest is massive. The position of the skeleton calls for notice. The legs were drawn up sharply, and obviously in a natural manner. This is additional argument in favor of the belief that the body was not buried; and must be taken in conjunction also with the facts that there are no traces of entombment, and that the contorted attitude is unknown in any case of burial by man. It would seem that the man was driven into the lake, which was once above the spot on which his remains were found, or met with an accident on it, and was drowned. The body would be quickly covered with the mud at the bottom of the water and tufa, and so be protected from disturbing influences.—*Scientific American*.

**BABY SAVING CAMPAIGN ACHIEVES SPLENDID RESULTS**

(Toronto Health Bulletin.)

The Baby Saving Campaign organized this past summer by the department has certainly justified itself. During the three summer months, June, July and August, there were 200 less infant deaths than in the same months last year.

The death rate from infant diarrhea, the most deadly and at the same time the most preventable disease of infancy, has this summer been cut in half.

The work of the Division of Child Hygiene has during the past three months been confined very largely to the care of the babies. Ten baby clinics have been at work throughout the summer, at each of which doctors and nurses have been in attendance twice a week. The attendance at these clinics has doubled itself each month, and the total attendance now is 952. 2,318 babies have been taken out on the steamer *Island Queen*, which was used in connection with the department in an effort to save babies from the prostration of the summer's heat.

A pamphlet, "The Care of the Baby," has been prepared, and also translated into Hebrew and Italian. A copy is sent to every mother on the birth of her child, or free on application to the department.

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**DRUGS AND THE WAR**

The drug trade will suffer perhaps more than any other as a result of the European war. Drugs chiefly affected in price so far are quinine, cod liver oil, hyoseyamus, salvarsan, morphine, opium, aconite, essential oils, ergot, phenol, glycerine, digitalis, buchu, physostigmine, camphor, pilocarpine, senna, rhubarb, cantharides, atropine, homatropine, asafetida, aloes, tartaric acid, strychnine, cocaine, novocaine, and the other local anesthetics, formaldehyde, caffeine, theobromine, bichloride of mercury and the synthetic drugs. The United States is a small drug producer, hence is bound to suffer because of the interruption of trade caused by the war. The increased demand abroad for chloroform and ether will affect the prices of these drugs also. The war ought certainly to result in a tremendous stimulation to domestic drug production. A country which is so great a user of drugs ought not to depend to the extent it does upon foreign producers. While it is true that we are absolutely dependent upon Europe for certain drugs, this cannot be affirmed of all that we

import. And probably for our absolute dependence in the case of some drugs it would be possible to substitute relative independence. As regards cinchona, why should we not transfer our trade directly to South America, instead of dealing with London and Amsterdam? There is enough digitalis growing wild in Oregon and Washington to supply the world.—*Medical Times*.

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### RECONSTRUCTION OF THE KIEL CANAL

In 1895, after eight years of hard work, the great canal running from the mouth of the Elbe, in the North Sea, to the Fjord of Kiel in the Baltic, a distance of about sixty miles, was thrown open to commerce. It had a normal width of 72 feet at the bottom and 220 at the water level, with a depth of  $29\frac{1}{2}$  feet. Although a sea-level canal, twin locks were built at each end, those at the western entrance to take care of the large tide variations, and those at the eastern end to take care of variations of water level, in the practically tideless Baltic, due to gales. The locks were 492 feet long, 82 feet wide, and 32 feet deep. The locks at Kiel remained open most of the time, while those at the mouth of the Elbe did not need to be used at certain tides.

The canal proved wonderfully valuable to commerce, because it saved the long, hazardous trip around the stormy coasts of Denmark. But its strategic value to the German navy was of even greater importance, as has been demonstrated in the present war.

Although the locks, when built, were large enough to take almost all vessels, they were outgrown in time, even by warships, and finally it was decided to reconstruct the canal, making it broader and providing locks that could take the largest vessel afloat, with plenty of room to spare. This work was completed in time to be of incalculable value to Germany in the present war.

The normal width of the canal is now 335 feet at the surface and 144 at the bottom, with a depth of 36 feet. New twin locks have been built alongside the old ones at each end. They have an available length of 1,082.6 feet and width of 147.6 feet. Intermediate gates may be used to cut off a chamber 328 feet long. The locks at Panama, it will be recalled, are only 1,000 feet long by 110 feet wide.

The work of reconstructing the canal cost \$55,000,000.—*Sc. Am.*

## News Items

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Dr. George W. Ross has arrived in Toronto from Europe.

Dr. Murray MacLaren, St. John, N.B., has gone with Canada's First Contingent as surgeon.

Dr. H. C. Wetmore, St. John, N.B., has been appointed deputy-receiver-general at the port of St. John.

Hon. Dr. Beland, who has been serving with the Belgians, will become attached to the First Canadian Contingent.

Dr. Robert Rudolf, Toronto, has been called to England in an advisory capacity in connection with base hospital work.

Dr. W. E. Deeks, late of Panama, is in Montreal, and has become engaged in examining recruits for the British army.

Dr. George W. Badgerow, London, England, who has been spending some weeks at his parents' home in Toronto, has returned to London.

Sir Thomas Roddick, who has returned to Montreal, after an exciting escape from Europe, was attacked with pneumonia, from which he is rapidly recovering.

Colonel Carleton Jones, director of the Canadian Army Medical Service, left with the First Canadian Contingent, in command of the hospital and ambulance sections.

Dr. Campbell Keenan, Montreal, has accepted the position of regimental surgeon to the Princess Patricia's Light Infantry. Dr. Keenan served with the Strathcona Horse in South Africa.

The total registrations in the Province of Ontario in 1913 was 125,831; the births were 64,561; marriages, 26,998; deaths, 34,317. The net natural gain in population was about 30,000.

Dr. R. A. Reeve has resigned as Professor of Ophthalmology in the University of Toronto and Dr. J. M. McCallum has been appointed to the vacancy. Dr. George R. McDonagh has also resigned and Dr. D. J. Gibb Wishart has been appointed Professor of Oto-Laryngology.

Dr. J. B. Leathes, Professor of Pathologic Chemistry in the University of Toronto, has resigned and will return to England, where he has been appointed Professor of Physiology in the University of Sheffield. Dr. Leathes will remain at the university until December.

At the recent meeting of the health officers of Nova Scotia, Dr. W. H. Hattie, provincial officer of health for Nova Scotia, presided, and amongst others present to deliver addresses were Drs. J. W. S. McCullough, of the Ontario Board of Health, and Peter H. Bryce, Ottawa.

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## Obituary

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### BRUCE L. RIORDAN, M.D., TORONTO

Dr. Bruce L. Riordan died in Toronto on the 29th of August, in his fifty-fifth year. When it began to be known among his confreres in the city on Sunday following his death Saturday evening there were expressions of the most sincere regret that "Riordan" was dead. The late Dr. Riordan was in many ways associated with all that was best in the profession of medicine. He was strict for his professional rights, and never failed to respect the rights of others. As an organizer of medical society meetings he was a past-master. It is doubtful if any other medical man in Canada could carry out the details for success at a medical meeting so well as Riordan. It was often that his services were required and he was never known to fail. He was happiest when looking after the arrangements for a large or small medical meeting.

But it was not alone in the social life of the profession that he was a leader. As an emergent and traumatic surgeon his experience was large and his understanding unlimited. He was a past president of the American Association of Railway Surgeons, and at the time of his death president of the Aesculapian Club. For the Ontario Division of the Grand Trunk Railway he was surgeon for many years. This often brought him into the courts as a witness, where it is said he always acquitted himself with fairness, honesty and capability.

To the widow and surviving son we extend our sincere sympathy.

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## Publisher's Department

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**A MOUTH WASH IN FEVER CASES.**—In all fever cases where the tongue is coated, the lips dry and cracked and the teeth covered with sordes, the use of some cooling and soothing mouth wash would seem to be indicated.

Glyco-Thymoline in a 25 per cent. solution with cold water fills this want perfectly. Its frequent use is grateful to the patient and at the same time a great factor in relieving the condition.

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**SYRUP SODIUM BIPHOSPHATE.**—Sodium Acid Phosphate.—*Sodii Phosphas Acidi.* Sodium Dihydrogen Phosphate.—Monosodium Orthophosphate.—Primary Sodium Phosphate.—Sodium Acid Phosphate,  $\text{NaH}_2\text{PO}_4 \cdot \text{H}_2\text{O}$ , is the monosodium dihydrogen salt of orthophosphoric acid  $\text{H}_3\text{PO}_4$ , containing not less than 82 per cent of anhydrous sodium acid phosphate.

**Actions and Uses.**—Sodium Acid Phosphate undergoes no change in the stomach. In the intestine it is converted into disodium hydrogen phosphate (secondary or neutral sodium phosphate). In large doses it produces laxative effects similar to those produced by the official disodium hydrogen phosphate (sodium phosphate B.P.). The neutralization of the acid phosphate is accomplished by alkali drawn from the blood. This tends to reduce the alkalinity of the system, which reduction is prevented by the excretion of acid in the urine. Sodium acid phosphate can thus be used to render the urine acid, or increase its acidity. It is used for this purpose to assist the action of Urotropin which is effective only in acid urine. For this purpose sodium acid phosphate should be given long enough before the Urotropin so that it may have left the stomach before the latter remedy enters it.

We have prepared and offer for dispensing in 8 oz. plain bottles Syrup Sodium Biphosphate "Frosst," containing 10 grs. Sodium Biphosphate to each fluid drachm. This palatable product is readily administered in doses of one to two fluid drachms in water repeated frequently until the urine becomes acid. It should not be prescribed in solution with Urotropin.—*Charles E. Frosst and Co., Montreal.*

# Dominion Medical Monthly

And Ontario Medical Journal

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## Original Articles

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### PRESIDENTIAL ADDRESS—ACADEMY OF MEDICINE, TORONTO

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By H. B. ANDERSON, M.D.,

Associate Professor of Clinical Medicine, University of Toronto.

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In the first place, permit me to express my deep appreciation of the honor of having been elected President of the Academy of Medicine for the current year. When one reflects on the manifold duties and responsibilities involved, he may well be pardoned some misgivings as to the wisdom of your selection. If, however, an abiding faith in the mission of the Academy and of its possibilities of usefulness to the profession of Toronto, and a willingness to do one's best to promote its welfare will compensate for other deficiencies, I may hope to justify a claim to these qualifications. Until two months ago everything gave promise that this year should be marked by a continuance of the phenomenal progress which has attended the Academy in increasing degree each succeeding year since its organization in 1907. The increase in membership, now about four hundred, the growing attendance at meetings, the ready response from leaders of the profession, abroad as well as at home, to contribute to our programmes, the steady growth of the library, and not least, the general recognition that we now have a strong and representative organization, which reflects the opinion and mobilizes the influence of the profession, are all gratifying evidences of our progress. The rapid growth of the Academy, however, has produced problems pressing for solution. Already our accommodation for both library and meeting purposes is greatly overtaxed. The council had considered the matter and had formulated a plan to submit to the Academy to make provision for these urgent needs.

Through the munificence of Mrs. Ross the means were provided for the erection of a beautiful auditorium, as a memorial to our revered colleague and first president, the late J. F. W.

Ross. This splendid contribution, with others in sight, if supplemented by reasonable assistance from our own members, brought within view the realization of a building in Queen's Park worthy of our profession and city.

The sudden breaking of the cloud which has so long threatened our Empire and the peace of the world, however, has dislocated the affairs of our country, and turned the resources and energies of our people from peaceful pursuits to a struggle against a military despotism, for not alone our national existence, but for the cause of freedom and the future of civilization.

These events have made it necessary that our plans for building shall be held in abeyance for the time being.

In this crisis, as in the past, our profession has stood ready to accept its share of sacrifice, not only in answering the call of duty in active service, but in contributing both time and money for the care of the needy dependents of our soldiers and for the relief of the increased sickness among the poor of our city. Most of us shall not have to face the dangers and hardships of active service, but the hearts and prayers of every Fellow will follow those of our colleagues, including the chairmen of two of our sections who have gone, and they may be assured that each of us will consider it not only a duty, but a privilege, to conserve as far as possible their interests in their absence.

During this session we are unlikely to be favored by visits from transatlantic colleagues, whose contributions to our programmes have been such a valuable feature of our meetings in past years. It is a great satisfaction, however, to know that we still have our good American friends to call upon, one of whom, in the person of Dr. L. G. Cole, of New York, we shall have the pleasure of hearing to-night.

There is none among us who does not look forward with confidence to the time when "danger's troubled night depart" and peace with honor shall be again established. In the meantime there is no duty more important, no service greater, which those of us who remain at home can render our country than loyally to uphold those institutions and interests committed to our special care.

May one go further, and express the wish that one among you more worthy had been in my place, to say that this is an opportune time to rise superior to personal differences, jealousies or friction; to set aside all "ancient forms of petty strife," and, emulating the spirit of political parties at home and abroad, to cultivate har-

mony and good-fellowship, and unite on the common ground of our interest in our institutions and the profession at large.

It is idle as it is undesirable, among independent, earnest and educated men, to look for uniformity of thought or opinion on all questions which may arise, but let us respect to the fullest degree honest differences, and as university men, let us cultivate a spirit of freedom of thought and action.

Above all, let our quarrels and differences, if any, be among ourselves and not unnecessarily aired in public, or submitted to the judgment of outsiders, indiscreet enough to meddle in family affairs or ready to deliver judgment on *ex parte* evidence.

It is customary on occasions such as this to select for consideration some topic of outstanding interest and importance to the profession, a retrospect, perhaps, of recent medical progress, an appraisal of present conditions or an outline of the prospect for the future. In the ordinary even tenor of our way the task is usually not a difficult one, but what of the present, when bloodshed and destruction is the one absorbing interest of civilized nations?

Never by contrast, however, was the nobility and humanitarianism of our own calling more strikingly exemplified—the one profession whose sympathies and interests extend beyond international boundaries, whose chief duty is to *fight* against disease, to *conserve* the health and lives of the people, even to mitigate the scourge of war itself by its merciful service rendered alike to friend and foe. This is certainly not the time to abate our zeal or slacken our efforts in furthering the beneficent influences of the art and science of medicine.

Apart from the rapid advancement which has characterized every branch of medicine in recent years, undoubtedly the outstanding feature of the period is the world-wide movement to reorganize, to correlate and to amplify the various institutions and agencies associated with our professional work.

In the field of medical education we have seen the old proprietary schools, which served well their day and generation, gradually replaced by the medical departments of universities; the standards for matriculation and graduation have been raised, the course of study lengthened and many new subjects have been added to the curriculum; and adequate provision has been made for the systematic teaching of the fundamental sciences in extensive and well-equipped laboratories, under the direction of full-time professors.

A further tendency has been apparent during the past few years to separate medical education more widely from practice,

to regard it as "primarily an educational and not a medical question." The application of this principle has already resulted in radical changes in some institutions, where the professorships in medicine, surgery and other clinical branches, have been given to men devoting all their time to teaching and research, to the exclusion of consultants or those otherwise giving a part of their time to private practice. Some authorities have gone even further and advocate the displacement of the latter altogether as clinical teachers, because they believe it is impossible for men busy in practice to give the necessary time for the proper discharge of their academic duties.

Considering the amount of executive work thrown upon the head of a clinical department in a large medical school, such a limitation of his private work has apparent advantages, though in some institutions a more democratic plan has been adopted to distribute the burden, namely, by vesting control in a departmental committee instead of in one individual.

The adoption of a principle, nevertheless, which would place the education of medical students, especially in the clinical branches, exclusively or largely, in the hands of men deprived of the invaluable experience of consulting or private practice, must be viewed with grave misgiving by those who appreciate the responsibilities placed upon those whose duty it is to minister to the sick, and who know the necessity for not only a *thorough*, but a *thoroughly practical training*.

The exclusion of men doing private work from clinical appointments, moreover, would appear a needless limitation of the power of our universities to select the most competent men, regardless of any arbitrary restriction of the field of choice; it would deprive those responsible for the treatment of private patients of important opportunities for keeping abreast with professional progress, and would tend to the development of a medical hierarchy, capable of maintaining their positions and status by controlling the facilities for advancement (provided at the public expense), instead of by the amount and character of work accomplished, under conditions wherein active competition is not only permitted, but encouraged as far as possible.

In advising against the adoption of this principle, the Royal Commission on Medical Education in London points out "the grave danger against which practice is the best protection, the danger of forgetting the individual in the interest aroused by his disease." The financial burden involved by the limitation of clinical teaching to a class devoting itself entirely to this and re-

search, however, makes the proposition at present impracticable, and therefore of only academic interest, except in institutions where money has been specially provided for the purpose.

A glance at the hospital field reveals a similar activity, aimed at bringing these institutions up to the requirements for modern clinical investigation, diagnosis and treatment. In no place has evolution along these lines, especially in the provision of excellent accommodation for both private and charity patients, been more active than in our own city, where we now have buildings which compare favorably with those of any great medical centre in the world. In America and Great Britain there has been a recognition of the necessity for radical changes in the organization of clinical departments in order to render effort more productive and to make provision for the practical application of recent scientific discoveries to diagnosis and treatment.

In some features of hospital work, we are still far behind the best continental institutions. This applies especially to the organization of self-contained and independent clinics, each with its own wards, doctors, nurses and servants; with its own theatres, library, laboratories and equipment. These distinctive features of the continental system as contrasted with the British, come naturally with the former from the common custom of having different clinics in separate buildings or clinical institutes.

The advantages of the independent clinical units, in fixing responsibility, in giving freedom in initiative and management, in permitting of the building up of each clinic along lines most suited for its special purpose, in avoiding friction and interference which paralyze action, and in providing generous rivalry, are very evident, and account in no small measure for their greater capacity to produce good team work.

Before the Royal Commission, under the chairmanship of Lord Haldane, the inadequacy of the system so long in vogue in Great Britain to meet modern requirements, was pointed out by many of the witnesses, Sir Wm. Osler characterizing the existent conditions "as a legacy from a period when university ideals had not reached the practical side of our medical schools."

The necessity for considering these defects of organization applies to our own hospitals quite as much as to the British, after which they are modelled.

In no particular has the old system failed more conspicuously to meet the requirements of modern progress than in the correlation of laboratories to the general clinical work of the wards. It is quite unnecessary to urge the essential importance of good labor-

atory work for the investigation, diagnosis and treatment of cases in the clinic. Any serious consideration of the question must make it conclusive that laboratory examinations and investigations are as much a part of the clinic as the use of the stethoscope or the speculum. The delegation of the laboratory work of the clinics to other departments—as Pathology or Pathological chemistry—can never be a satisfactory solution of the problem or productive of the best results.

Even the most imperfect attempt to meet the laboratory requirements of the clinics in this way imposes on these departments an amount of detail work which must seriously interfere with their own special functions; it places laboratory investigations in the hands of those not intimately associated with the clinical problems to be worked out, and who, no matter how competent in their own spheres, cannot be expected to have a thorough grasp of all the clinical specialties; it deprives clinicians of both the incentive and opportunities for development as practical laboratory workers, or even to apply in a satisfactory way the results of scientific methods to the cases under their control; it results in a breakdown of the laboratory work of the clinic during holidays when ward work must go on, though the college laboratories are more or less inactive; it detracts from the independence and dignity of the clinic and presents an insuperable barrier to a high order of intensive or special clinical effort.

I believe one may safely say that there is no matter so intimately related to the future development of our clinical work and the practical training of our students as the provision of commodious and well-equipped laboratories in connection with each clinic, for routine examinations, for teaching and for investigation.

I do not wish to be misunderstood as advocating a complete severance of the systematic work in the college laboratories from the applied work in the wards, but the relation should be consultative rather than executive. One need only consider the amount of work involved in the laboratory end of the clinical specialties, the special training required, the number of assistants necessary to accomplish the work, the fact that surgery, medicine and other branches and their various sub-departments all present different problems in equipment, technique and direction, in order to grasp the impossibility of having this work carried out properly in other departments.

Every argument which can be so readily adduced in favor of the thorough training of students in the scientific departments during the primary years hinges on the necessity for preparing

them properly for the study and investigation of disease, when they later enter the hospital wards. It, therefore, follows that sufficient time and suitable facilities must be provided for the application of the methods which they have learned, unless the chief purpose of their preparatory training is to be lost.

Leaders in the scientific departments have been among the strongest advocates of this reform, Professor Welch, of Johns Hopkins, especially having urged the necessity for "the foundation and support of teaching and investigating laboratories connected with the clinics."

To what purpose, one may ask, does the young teacher spend years in the pursuit of laboratory methods, if he is to be cut off from applying his knowledge, and further developing himself when once he passes from the systematic laboratories to the clinic? While one does not wish to appear as unnecessarily "emphasizing the obvious," the vital importance of this whole question is sufficient warrant for its careful consideration.

Looking to the future, it appears plain that either clinicians must have the facilities for and undertake the responsibilities of the laboratory work of the clinics, or the laboratory men must assume control of the wards. Modern requirements are not met by the present separation.

Carlyle has said, "That the end of man is an action and not a thought, though it were the noblest." We have, happily, passed the period when we are satisfied with even an intimate knowledge of the work of others, by reading, *thinking* and *talking* of scientific medicine without doing.

What is wanted now is the *opportunity* more than the stimulus to work, the conditions toward which the energies of our profession have striven, when our men might be able to join, as active participants, in the march of progress rather than continue as interested spectators.

It has been said, with some warrant for the statement, that while our clinical staffs have discharged creditably their obligations to the sick, that they have as yet contributed little in the way of researches of scientific value. But surely, if they have failed, it has been the failure of accomplishing the impossible, of attaining the end without the means, of turning out the finished product before the erection, manning organization and equipment of the plant, rather than entirely from fault of the individual.

I should like, if time permitted, to refer to numerous other lines along which a rapid evolutionary process is taking place at the present time, such as the establishment of special institutions

for medical research, the wonderful activity in the domain of public health, the popular crusades against tuberculosis, cancer, venereal disease, infant mortality, and occupational diseases; the legislative enactments in connection with workmen's compensation and national insurance, all of them questions in which we are specially interested and toward the solution of which we should use our influence.

It requires no prophetic vision to see the bearing of all these matters on the future of the medical profession. It can be said to our credit that we have always been ready to sacrifice personal interest to the common good, so that whatever tends to progress is assured of our sympathy and hearty support.

There is, unfortunately, a disposition on the part of some to mistake mere novelty and change for progress; and of others, looking at a broad question from a particular angle, to overestimate the relative importance of one aspect of professional activity, usually their own, as compared with another. It is here that the steady influence and hard common sense of the profession at large, whose theories have been tempered by the cool winds of practical experience, should make its influence felt, so that, while ready to try all things, we may hold fast to that which is good, at least until something better is at hand, and under all circumstances let us be assured that, come what may, the chief aim and object of our profession shall be kept steadily in view—the control and cure of disease.

But it must not be assumed that the future progress of medicine is bound up entirely in the activities of colleges, hospitals, research institutes, boards of health, and so forth. The important strategic position occupied by the general practitioner for attacking many of the problems of disease, for studying the initiation of disease, its course, perhaps through many years, and its final outcome, has not been fully appreciated.

This aspect of clinical progress is dealt with in a masterly way in a paper by James Mackenzie, published in the *British Medical Journal*, January 3rd, 1914, and which should be read by everyone, especially by our younger men, who frequently undervalue the opportunities which general practice affords for scientific study. Coming from one, himself a general practitioner, who has probably done as much as any other physician of our time to apply scientific methods to the elucidation of important practical questions, his words are worthy of our earnest attention; he says, "The general practitioner must be recognized as an essential adjunct in research. To him especially we should look to find out

the early stage of disease and its progress. Hitherto the lack of this assistance has been the cause of the tardy advance of medicine."

There is no essential reason for lack of harmony in work or aim among the different branches of our profession. Friction means dissipation of energy and lessened efficiency. Mutual support, sympathy and co-operation are essential to success.

In the fight against disease we represent different sections of one great organization, each with all-important duties—the laboratory worker and experimenter devising and proving new implements and methods, the hospital clinicians and specialists bringing forward that which is new and best withstands the test of application—thus keeping open the communications with the men on the firing line, the great body of practitioners, on whose training and efficiency, after all, victory ultimately depends. Our students are the recruits, who must be imbued with the proper spirit and trained to take their places in the ranks depleted by the casualties of service and by the falling out of the veterans.

At the time of the International Medical Congress last year, a London paper, in an editorial on "Our Friend the Doctor," expressed a layman's point of view in these appreciative words, "The discoveries of Lister, Pasteur, Metchnikoff and Ross—to name only a few—constitute an epic worthy of a Homer. The slow dragging of her secrets from Nature, the discovery of the thousand unsuspected agents through which she works, is a fascinating study to those who understand it. The laboratory is the arsenal from which the hand of the physician and surgeon is armed. But it is the wise, experienced, tender man, the first to be called, and the last, too often to be paid, of whom we common folk are thinking when we speak of "the doctor."

Every intelligent medical man appreciates the indebtedness of modern practice to laboratory men, and disparaging remarks regarding the value of their work reveal the weakness of the critic more than of the object of his criticism.

On the other hand, practitioners generally will approve of Miltzer's candid criticism of a fortunately rare type of scientific prig, who affects a lofty disdain of everything practical and who thinks it more noble to investigate a sick rabbit than to attend a sick man. "The trouble with men trained exclusively in laboratories is two-fold: first, they do not seem to see that a medical fact observed critically by a capable physician deserves as much credence and consideration as a fact developed by laboratory methods; and, secondly, the laboratory man offers positive opinions in a field

in which he has no experience." We should remember, however, that clinical and laboratory knowledge are in no way antagonistic or mutually exclusive.

Among the other factors exercising an influence in the present forward movement we must not overlook the importance of such institutions as the Academy of Medicine. It provides every year an extensive and valuable course of post-graduate instruction; through it our younger men are given an opportunity by presenting results of investigations or reports of cases, to establish themselves in the estimation of their confreres, who will not be slow to judge them by the quality of the work they bring forward; our senior men, in the seats of the mighty, are enabled to demonstrate that their places of trust and opportunity are worthily occupied, by presenting to the great body of practitioners composing the bulk of our membership what is latest and best in their several departments; our colleagues in the scientific departments to bring their investigations and discoveries before the men who can test out their value in practice.

The library, however, is the nucleus around which centres the life of the Academy. From the time of the Alexandrian school to the present, no great medical centre ever developed apart from good libraries. Osler has said, "It is hard to speak of the value of libraries in terms which would not seem exaggerated. To study the phenomena of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all. For the teacher and worker a great library is indispensable. They must know the world's best work and know it at once; they mint and make current coin, the ore so widely scattered in journals, transactions and monographs."

It should, therefore, be our steady aim to make this one of the great medical libraries of the world, and I believe many of us will live to see the day when this has been accomplished. It may be of interest to you to know that among medical libraries we at present rank second in Canada, twenty-ninth on this continent and seventy-sixth in the world.

To indicate the possibilities of growth, it is encouraging to know that when Dr. Billings took charge of the Surgeon-General's library at Washington in 1865, it contained less than 2,000 volumes, while at present it has on file 175,507 volumes, and its index catalogue has a reference to every rare case that has been recorded since the discovery of printing A.D. 1450. Our Fellows, through arrangements made in Washington and the deposit

of a sum of money to cover insurance, by the late Dr. Ross, have the great privilege of being able to have access to books and references from this library by merely paying express charges.

We are now prepared, at request, to place at the disposal of our members any important journal, transactions, reports, monographs, or text-books in which they may be specially interested.

An historical section of our library, in which is collected documents relating to our history and development, biographies, autographs, photographs, hospital and health reports, journals, etc., should be started as soon as possible before passing years render much material relating to our early days unavailable.

The erection of our new building will afford an opportunity for the descendants of the many notable members of our profession, who were so closely identified with the settlement and development of Upper Canada to appropriately commemorate their names and deeds in our common meeting places, and thus link up the history of the period in which they lived with the present.

In this connection it affords me much pleasure to say that a grandson of one of the early physicians of Toronto has set aside in his will the sum of \$10,000 to establish a lectureship in connection with the Academy, to be named after his grandfather.

The movement to organize the various city and district medical societies throughout the province and link them up with the Ontario Medical Association, and through it with the Canadian Medical Association should receive our active support as a measure making for professional cohesion, and the increasing of our corporate influence in the community.

I cannot let the occasion pass without referring with deep regret to our losing the services of Miss Mason, who filled the position of librarian and secretary to the Academy so acceptably for a number of years. Her industry, devotion to duty and unflinching courtesy won the sincere regard and appreciation of all, and our best wishes will follow her in her new vocation.

Owing to the increasing amount of work, the Council considered it necessary to separate the duties of librarian and secretary.

The former has been placed in charge of Miss Charlton, who comes to us with a reputation established by many years' service in McGill Medical College, as one of the foremost librarians on the continent; the latter has been filled by the appointment of Miss Runciman, who already has given ample evidence of her fitness for the duties of the position.

It is our sad duty at this time humbly to acknowledge that "the art whose province it is to heal and to save, cannot protect its own ranks from the inroads of disease and the waste of the destroyer." Since we last met one of our best-known and most deeply-esteemed Fellows and member of the Council, has been called from his labors. Dr. Bruce L. Riordan was a big-hearted, generous friend, devoted to his calling, and his early death at the height of his professional career, is a great loss to our ranks and to the community he served so faithfully. To the widow and son we all join in expression of our deepest sympathy.

The medical profession of Toronto and the Province of Ontario since its foundations were laid a century ago by the old army surgeons, has exercised an influence on our political, educational and social development, which stands as a lasting monument to the character, capacity and influence of its members. We have a noble heritage, and it is our duty to see that it is transmitted to those who follow us, unimpaired in dignity, honor and usefulness.

## LEGISLATION CONCERNING THE RIGHT TO PRACTICE MEDICINE\*

BY DR. A. F. MCKENZIE, Monkton, Ont.

Mr. Chairman and Gentlemen,—

As the Premier of this province has stated his intention of appointing a Commission to investigate the whole subject of medical education and practice, and as our territorial representative has recently asked us by circular for an expression of our individual views, I consider the present an opportune time for a discussion of the subject of "Legislation concerning the right to practice medicine." My object will be to give a short sketch of present conditions and offer some suggestions for the purpose of drawing out the opinions of others rather than with the idea that I have completely solved, in my own mind, what ought to be done, let alone what will be done after this matter has been presented first before a Commission and then before our Legislature.

I believe this is a subject in which the average practitioner takes very little interest. Having received his diploma, he, as a rule, finds enough difficulty in paddling his own canoe through the rapids and eddies of practice, without taking much thought of who else has secured the privilege of taking the same trip and running the same risks as himself. He votes for his territorial representative, pays his two dollars a year, and is content to leave the matter in the hands of others. I must confess that I have no recollection of ever having read over, until I undertook the preparation of this paper, the Ontario Medical Act.

A complete consideration of this subject would involve an examination of the very foundations of human government—whether we like it or not, by whatever name we may call it. Whether it be the ushering in of a higher and better civilization, or whether it will prove to be a new kind of slavery, the march of events appears to be towards the state undertaking to either perform itself or to regulate the performance by others of undertakings which formerly were left to individual option and enterprise. What reasons are there why the Government should have anything special to say about this question of medical education

\* Read at a joint meeting of Huron and Perth Medical Associations, held in Mitchell, July 15th, 1914.

and practice? Why should not the adage, "Let the buyer beware," apply to relations between doctor and patient, the same as it does to merchant and customer. Many answers might be given to this. I shall content myself with the following. In case of sickness the patient and his friends are not, as a rule, capable of exercising that judgment and deliberation which usually attend the ordinary transactions of life. They are, for the time, in a state of panic, the degree of which varies greatly in different individuals. Moreover, even if they were able to use their usual judgment and deliberation these would not in themselves, without previous experience, enable them to judge the value of medical service to the same degree that the ordinary man can judge of the value of what he purchases in the store or factory. Again, many cases of illness concern not only the patient and his friends, but the community at large. It may or may not be a matter of interest to the community how much an eruption on the skin of a certain individual may itch, but it decidedly is a matter of concern for the community at large to feel confident that the man who is treating that eruption is able to determine with a reasonable amount of assurance whether or not it is contagious.

These are some of the reasons why we think it to be the duty of the state to insist that the ordinary citizen should, when he calls upon a licensed practitioner, have reason to feel that he will be treated by someone of at least average intelligence and possessing a reasonable amount of special training in the diagnosis and treatment of ordinary diseases and injuries. It follows, however, as a natural sequence that the state cannot secure such a specially trained body of men without granting to them certain privileges. The question for statesmen to decide is—"Are the privileges approximately proportionate to the special responsibilities and requirements?"

I have not had time nor opportunity to trace medical legislation to its sources and learn how much of it has been prompted by those desirous of securing special privileges and how much by personally disinterested statesmen desirous only of the welfare of the people. Whatever the origin, however, the present condition is that practically all civilized nations have restrictions and regulations of some sort, and the philosophical anarchist is probably the only class of thinker who would advocate that anyone who wished be permitted to practice medicine, surgery and obstetrics for compensation.

We, of course, are particularly interested in legislation as it affects our own province. I do not think it necessary to make

any particular reference to the newly-created Dominion Medical Council, as that does not so immediately concern us. I may say, however, that I think it is structurally weak in the same particular as our own Provincial Board.

The regulation and control of the practice of medicine, surgery and obstetrics in this province is in the hands of the Medical Council, consisting at present of eighteen territorial, six collegiate and five homeopathic representatives. According to a statement issued not long ago by our territorial representative, there are in this province about three thousand and fifty licensed practitioners, of whom fifty are homeopaths. According to these figures every ten homeopaths have a representative in the Council, while the rest of us are represented only in the proportion of one to one hundred and twenty-five. Aside from this anomaly I see no particular objection to the composition of our Council, except that three of the collegiate representatives do not represent colleges or universities where medicine is taught at the present time. In 1912 a committee appointed by the Council recommended that the representation of the universities be reduced to those actually engaged in the teaching of medicine and that the number of homeopathic representatives be reduced to two and territorial representatives to ten. This has not yet become law.

I am informed by communications recently received from the registrar of the Council that during the past eight years there have been only five candidates take the homeopathic examination. If there is to be a reorganization of the Council, I think the homeopaths should seriously consider the advisability of giving up completely their special representation in the Council. I say this out of no disrespect for the homeopaths. Man for man they are probably as good as the rest of us, but a great many things have happened in the medical world since the time of Hahnemann. The present generation of homeopaths have lived to see in the therapeutic use of vaccines probably the nearest approach to a corroboration of Hahnemann's theory that it is likely to receive. But so far as I know the homeopaths themselves had nothing to do with the introduction of vaccines. They have probably not taken up their use any quicker than the rest of us, and it is possible that the field of usefulness of these vaccines may prove to be more restricted than many enthusiasts at present believe. So that I think, taking everything into consideration, now would be a very good time for them to give up their special representation. Their presence in the Council makes it that much more difficult for us to say to the Legislature—There is a certain amount of knowledge

pertaining to the practice of medicine which is recognized and belongs to the medical profession, not only in Canada and the United States, but the whole of the civilized world. We want every man and woman licensed to practice medicine in this province to possess what we consider a reasonable minimum amount of this knowledge which, great as it is at present, will probably become still greater, and we do not want our licentiates to go out tagged with names and bound by theories or systems which will prevent them from keeping up with the march of progress. If homeopaths are specially recognized, why not eclectics? If eclectics, why not osteopaths, naturopaths, physio-medicists, and all the rest of them? And here I come to what I consider the central point of my address, viz., the desirability of maintaining, so far as possible, the unity of medicine, and by that I mean to include, of course, surgery, obstetrics, hygiene, sanitation and allied subjects.

The whole problem of medical education and legislation appears to me to resolve itself around the question of whether or not it is possible and desirable to select a sufficient number of young men and to train them within a reasonable time and at a reasonable expense, that when they graduate the Medical Council can say to them: The whole field of medicine, surgery, obstetrics and allied subjects is open to you. Your limitations are to be set by yourselves, your patients, the criticism of your colleagues and the general community and the laws of the land pertaining to crime and malpractice. All therapeutic resources are yours. Exercise in all its forms, both active and passive; mechanical adjustment and the use of mechanical appliances; hydrotherapy, electrotherapy and aerotherapy; camphor tea and aconitine; soft sawder and hard steel; suggestion, persuasion and even damnation. All these and anything else the future may develop are yours, to be used in the way you think best for the good of your patients. It is needless to say that no one man can be equally efficient in the use of each and all of these agencies. I know of no decision, however, by any judge which limits the therapeutic field of any legally qualified practitioner, so long as the treatment adopted is suitable for the case and used with a reasonable amount of skill.

Such, gentlemen, as I understand it, is the license which we received and which is now being granted. Should this continue to be the nature of the license granted or should it be altered? There has recently been launched on this continent an international organization known as the "American College of Surgeons." As yet it has no legal status so far as the regulation of the practice

of surgery is concerned, but some prognosticators are inclined to think that the time may not be far distant when this organization will say to our Medical Council, "The privilege you grant is too broad. Your requirements in certain subjects are not severe enough. Before a man should be allowed to do other than minor surgery he should come up to our requirements and receive our sanction." On the other hand there are different groups of those who say: "We wish to treat the sick, but we do not care to be judged by your standards. A great deal of what you ask us to know is not necessary according to our way of thinking. We have new and complete methods for the preservation of health and the relief and cure of human ills. It is true that we are not exactly agreed among ourselves as to what we should be called nor as to how long it takes to learn these methods. Some of us think they can be acquired in a few months. Others think it takes three or four years. However, here we are. We would like you to recognize us as legally qualified to treat the sick, but whether you do or not, we are going ahead, and we defy you to prove we are breaking the law or to penalize us if we are."

Such, gentlemen, is the present state of affairs, and the question is, What are we going to do about it?

The Ontario Medical Act says, article 49: "It shall not be lawful for any person not registered to practice medicine, surgery or midwifery for hire, gain or hope of reward; and if any person not registered pursuant of this Act, for hire, gain, or hope of reward, practices or professes to practice medicine, surgery or midwifery or advertises to give advice in medicine, surgery or midwifery, he shall, upon a summary conviction thereof before any justice of the peace for every such offence pay a penalty not exceeding \$100.00 nor less than \$25.00."

The Ontario Medical Act, however, gives no definition of the practice of medicine. Under date of March 19th the registrar of the Council writes me: "I have no idea how many osteopaths, chiropractors or Christian science healers there are in the Province of Ontario, but there must be over a thousand. We have been beaten every time we have prosecuted any of these people, as the judges have given a decision that in order to practice medicine drugs must be given, and if they are not used then they are not practising medicine according to our present Act."

The Standard Dictionary gives among other definitions of the word medicine: "The healing art; the science of the preservation of health and of treating disease for the purpose of cure."

Most of the State Boards to the south of us define the practice of medicine, and when we turn to these definitions we are reminded of a saying attributed to John Hunter, viz., "Definitions are the most damnable things."

These definitions of the State Boards range from about two lines to nearly a page in length. One of the most concise is that of Alabama: "Any person who treats or offers to treat diseases of human beings by any system whatsoever is considered to be practising medicine." Many of the states recognize three schools of medicine, viz., Regular, homeopathic and eclectic. So far as I am aware the term "allopath" is not used in connection with any of the state regulations. Nearly all of the states have exemptions of various kinds. In some of them midwives are exempted. The question of Christian scientists, clairvoyants, psychic and faith healers of different kinds is a very difficult one to deal with by law. As a rule they do not demand legal recognition. All they ask for is to be let alone. With the exception of Christian science not many people rely to any great extent on these means, and most people when they resort to them are probably aware they are taking chances. In some of the states these mental healers are exempted from the provisions of the Medical Act. In some others it is specifically stated that they are not exempt.

Probably the people we are most interested in at the present time are the osteopaths and chiropractors. With regard to the latter, up to a year ago Kansas was the only State to give them any legal status, and in this State, although the Governor permitted the bill to become law, it did not receive his signature.

As to osteopathy, I quote the following extracts from an article appearing in the *Journal of the American Medical Association* of March 29th, 1913:—

The classification of states naturally divides them into:

- (1) Twenty states having laws authorizing a separate osteopathic board.
- (2) Eleven states having laws adding an osteopath to the membership of existing boards.
- (3) Nine states with laws authorizing the existing board to examine and register osteopaths as such.
- (4) Seven states having no specific regulations on the subject.

Regarding the legal status of osteopathy in the courts, in fifteen States it has been declared either by statutory enactment or judicial decision to be the practice of medicine, while in twenty-one States it has been declared not to be the practice of medicine.

Turning to our own Provinces, it would seem that the only two which have so far taken any legislative cognizance of osteopathy have been Alberta and British Columbia.

In British Columbia three classes of practitioners are recognized: regular, homeopathic and osteopathic. The latter two are supposed to be restricted wholly to the practice of homeopathy or osteopathy. Just how you are going to give a person the privilege of treating the sick and restrict him to homeopathy or osteopathy is a mystery to me.

Is then osteopathy the practice of medicine? According to the decisions of the courts and legislatures of the land of its birth it is and it is not. What do osteopaths themselves say? In this small pamphlet entitled "Bulletin and Journal of Health," issued by the Littlejohn College and Hospital, is contained, among other things, a declaration of osteopathy as follows: "Osteopathy herein defined and as in practice recognized and authorized by the leading adherents of this modern school of healing is the term used to designate the new and independent, scientific and complete method or system for the preservation and maintenance of health and for the relief and cure of bodily disorders (or disease), and osteopathy in its principles and practice comprehends and includes all those various phases of health and disease as are covered by the other schools of medicine, surgery, midwifery and sanitation."

According to this declaration the osteopath claims as the field of his endeavor just exactly the same ground as we do who are licensed in this Province to practice medicine, surgery, and midwifery.

Having thus declared the extent of territory they wish to occupy, what reasons have they to give why they should not enter this field on the same terms as the rest of us? Setting aside those things which they calmly appropriate from the ordinary medical knowledge of the day their claims for special consideration appear, to my mind, to narrow down to the assertion that practically all diseases are due to or accompanied by anatomical displacements not recognizable by the ordinarily trained medical man, but which can be detected even in the earliest stages by the highly-trained sense of touch of the osteopath. These displacements, moreover, can be overcome by osteopathic manipulations, and thus health maintained and restored.

What is their position as regards the use of drugs? On page 4 of this pamphlet we find the following: "Osteopathy comprehends and includes in its philosophy, principles and practice surgery (both major and minor), including surgical medicine,

anesthetics (general or local.)" Now what general or local anesthetics have they got that are not drugs? Again a little further on in this same pamphlet occurs this statement: "Osteopathy declares that internal medication by means of drugs, chemicals or other poisons (not foods or natural remedial agents of known and harmless value) is experimental and empirical, jeopardizing both the health and life of the user, and therefore the use of the same is discouraged and discarded (as a system or method of therapeutics)." This reads to me as though they claimed the right to use drugs at their discretion.

I have here the 1912-13 announcement of the Littlejohn College and Hospital. In looking through the list of text-books recommended I find many which we all recognize as authorities: "Gray on Anatomy," "Foster on Physiology," "Osler on Medicine," "Rose and Carless on Surgery," and so on through the whole list. Anyone looking at this part of the announcement alone would not be able to distinguish it from that of a regular, common-place medical school. The only two subjects which are different are "Osteopathic Technique," in connection with which no text-books are named, and "Principles of Osteopathy," in connection with which three text-books are named.

If osteopathy be a new, independent and complete system in itself, and is not the practice of medicine as generally understood, why do their students require to study all these books? The whole thing looks very much to me like a game of "Heads I win, Tails you lose."

Is chiropractic the same thing as osteopathy? The adherents of each claim it is not. Chiropractic appears to me to be a concentrated and simplified form of whatever is original about osteopathy and, therefore, with certain types of mind, that much more potent as sometimes simplicity is the soul of humbug as it is said to be of wit.

Just at present our Legislature is dealing with a very difficult problem, viz., "The Workmen's Compensation Act."

If osteopathic displacements and chiropractic subluxations are to be recognized by law, I venture to say that the administration of this Act will be made much more difficult and less satisfactory to all concerned.

To facilitate discussion, and without attempting to commit this meeting to their adoption, I would from my examination of this subject suggest the following conclusions:—

(1) The time has come when it would be to the best interest of all concerned for the homeopathic practitioners in this Pro-

vince to give up their special representation in the Council, and every legitimate pressure should be brought to bear to induce them to do this. Aside from this special representation they would be deprived of no rights which they now possess. If there should be a sufficient revival in homeopathy to warrant the establishment of a Homeopathic College which would come up to the requirements of the Council, this College would have a representative.

(2) No college or university should be represented which is not engaged in the teaching of medicine.

(3) Providing the above alterations are made, it would be well to make the reduction in territorial representatives as proposed.

(4) While every encouragement should be given to specialism, post-graduate study, and the acquisition of post-graduate degrees of real merit, we should look with suspicion on any attempt made to curtail by law the field of action of the general practitioner once he has obtained his license.

(5) All licentiates should be made to pass the same examinations and come up to the same standard. This standard should be a knowledge, practical as well as theoretical, of the prevailing practice of the day as taught in the best medical schools of this and other lands. No special arrangements should be made for sectarians. We might take in the osteopaths to-day and the Christian scientists to-morrow. We would still have the chiropractics and advocates of gas-pipe therapy on the one hand and the seventh son of the seventh son and various varieties of peculiar people on the other. If after receiving his license a practitioner wishes to announce himself as an adherent of any particular system, the Council should have nothing to say about it. Article 33, part 2 of the present Act appears to make provision for this in the following words: "The name of a person shall not be erased under this section on account of his adopting or refraining from adopting the practice of any particular theory of medicine or surgery."

(6) The law should be more definite as to what constitutes the practice of medicine. It is time for a frank understanding between the profession and the Legislature as to what are our duties, as well as our rights and privileges. The fundamental justification for the existence of the Medical Council is the public welfare. If the representatives of the people come to the conclusion that there should be no restriction as to who should engage in what is generally understood to be the practice of medicine—

why so be it. We shall then know where we are. If they decide that those who wish to practise medicine must conform to the requirements of the Medical Council, then those who conform to these requirements should be protected by law, and I believe I voice the sentiment of the great majority of the profession when I say we want no privileges nor protection disproportionate to our responsibilities.

(7) Whatever the outcome of the findings of the Commission and the action of the Legislature, I believe the law should be such that its administration can be left in the hands of public officials. We should not have to act as police in order to protect our rights any more than the manufacturer should be expected to keep private detectives to prevent smuggling. Any fines collected for violation of the Medical Act should go into the public coffers, and not into the hands of the Medical Council. Violators of the Act should be made to realize that they are defying the laws of the land, and not merely disregarding the rules of a corporation.

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**Note.**—Those interested in this subject will find a great deal of information in a small book entitled "Laws (abstract) and Board Rulings regulating the Practice of Medicine in the United States and Elsewhere," published by the American Medical Association, 535 Dearborn Avenue, Chicago. Price thirty cents.

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## CHIROPRACTORS

To meet the efforts being made by the chiropractors to secure a charter to enable them to open a college for instruction, the Ontario College of Physicians and Surgeons, through a number of leading representatives, waited upon Hon. W. J. Hanna recently with a request that the charter be refused.

Included in the deputation were Dr. James McArthur, of London, President of the College; Dr. C. K. Clarke, of Toronto General Hospital; Dr. J. S. Hart, Dr. A. J. Johnson, Dr. E. E. King and Dr. Griffith, of Hamilton. H. S. Osler, K.C., appeared for the college as counsel, while the chiropractors were represented by A. Grier.

The objections of the doctors to anything that would give official approval to the chiropractors were voiced in detail. Hon. Mr. Hanna followed closely the arguments pro and con, but did not intimate what action the Government would take. The Government, he said, would give the matter very earnest consideration before taking action one way or the other.

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And Ontario Medical Journal

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## COMMENT FROM MONTH TO MONTH

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**Typhoid Inoculation** was carried out with marked success in the first Canadian Expeditionary Force while in camp at Valcartier.

The serum employed was prepared in the laboratory of the Ontario Board of Health, was donated by the province, and was so made up that one cubic centimeter equalled five hundred million bacteria. A second dose of a million bacteria was administered in ten days.

To do this required about forty-five thousand injections, and it speaks volumes for inoculation and the technique employed that no cases of severe constitutional reactions were reported and no infected arms, although during wet and cold weather the reactions were more pronounced than in dry and warm weather.

The technic was simple. First, an application of tincture of iodine was made, and then the injection.

Skilled men were employed in this work: Dr. Chas. A. Hodgetts, Medical Adviser to the Canadian Conservation Commission:

Dr. T. A. Lomer, M.O.H., Ottawa; Dr. Campbell Laidlaw, Pathologist, Ottawa; Dr. Harry Morell, Pathologist, Regina General Hospital; Dr. R. Woodhouse, M.O.H., Port Arthur, Ont.

Sir Almroth E. Wright has recently put the case for typhoid inoculation. In the *Times*, London, England, he advocated compulsion for this measure.

To those who may still hold a blind prejudice against inoculation of any kind, the statistics quoted by Sir Almroth will exert some educational benefit. The facts are incontrovertible. The utility and value of the measure have been abundantly substantiated.

To take three comparisons:

In the Spanish-American war of 1898, in the Jacksonville Camp, of 11,000 non-inoculated men, 1,750 had typhoid and 248 died. In the mobilization of United States troops on the Mexican frontier in 1911, there were 13,000, all inoculated—there was only one non-fatal case of typhoid fever. Again, in the United States Army in 1909 there were 84,000 men—1,900 inoculated. Typhoid fever claimed 22 by death out of a total morbidity of 282 cases. In 1903 the U. S. Army had risen to 91,000, all inoculated. In that year there were three non-fatal cases of typhoid.

The third case cited by Sir Almroth was that of the British Army in India. Of the 70,000 men it contained in 1897, not one was inoculated. The result was 2,050 cases of typhoid with 556 deaths. By 1912 ninety per cent. of the Army in India, equal to 71,000 men, were inoculated. The cases numbered 118 and the deaths 26.

No intelligent man, at least he going to the front, would reject this simple preventive measure whose proved worth has been so abundantly sustained. Indeed, in the face of such overwhelming proof no soldier should be allowed to reject it.

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**The Handling of Bread**, upon frequent occasions during a decade, has been dealt with in these pages.

From time to time in the past few years it has been noticed that gradually cities and towns, in some cases even villages, in the

United States, have adopted municipal ordinances or board-of-health regulations compelling protection by wrappers, or otherwise, of all bread and bakery products between the manufactory and the kitchen.

This staple article of diet is possibly the only one which now comes into our homes, which is not further treated before placed upon the table for consumption.

An occasional loaf may be seen in Canada, partly wrapped, but so far, no board of health appears to have regulated towards the sanitary measure of wrapping. And yet one only requires to be an ordinary observer of the bread wagon and the route to see that even a delivery man is not all that he should be in the way of cleanly habits.

It has now been definitely determined wrapping does not affect quality and palatability. There is no injury to a loaf so hygienically treated.

Clean milk is the prime requisite as regards that product—why not clean bread?

Bakers and drivers are but human, and so long as the public does not care, why should they worry.

It is indelicate and a breach of fine table manners to hand a slice of bread, even though it be from the beautiful hand of a fair hostess or other lady. But we seem to care nothing as to how many times and by how many hands—and what hands sometimes!—the loaf has been manipulated ere it comes to the table.

Toronto's health department, and other civic health departments in Canada are abreast of the times, and in some cases well ahead of some American cities, but in the matter of the sanitary wrapping of bakers' bread they are behind even some villages in the United States.

## Editorial Notes

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### SCHOOL INSPECTION ACT

The new code of regulations for the medical inspection has been printed and embodied in a new book issued to-day by the Department of Education for Ontario, which contains the regulations for the course of study and examinations for the Public and Separate schools of the province.

#### ORGANIZATION OF BOARDS.

Where provision has been made for free medical treatment for the pupils whose parents are unable to pay, one school board or a number of school boards, acting together, may, on the approval of the Minister of Education, adopt a system of school medical inspection, with power to appoint a school medical inspection committee representing all the boards.

#### QUALIFICATIONS OF STAFFS.

The school board or committee representing the boards must appoint a qualified medical practitioner of not less than two years' experience in his profession. Power is given with the consent of the Minister of Education and the Provincial Secretary, to create the medical health officer of the district, the board's medical inspector; or

One or more nurses, graduates of a reputable training school, with not less than two years' experience in nursing.

The medical inspector is subject to the school inspector or principal.

#### INSPECTION.

The Act makes medical inspection compulsory in rural school sections once every three months, in villages once a month, in towns once every two weeks, in cities once a week.

Where the parent or guardian neglects to comply, the school board may take such action as is deemed expedient.

#### EXAMINATION OF PUPILS.

A complete physical examination must be made of every pupil as soon after his admittance to the Public school as possible, con-

sisting of head, eyes, ears, nose, throat, teeth and cervical glands, of the heart, lungs, spine and joints, and of the skin of the face, neck and hands. The testing of sight and hearing. The examination of heart and lungs may be superficial except in special cases, and then only by permission or in the presence of the parent or guardian. The presence or absence of vaccination marks must also be recorded.

The school medical officer shall make a classroom examination of every pupil at least once every half-year as to the condition of mouth, throat, teeth, eyes, ears, skin of the face, neck and hands. The parent is to receive notice of the condition of the pupil, and must have case attended to.

Where a teacher or janitor is deemed by the school medical officer to endanger the health of the pupils, the board may order a physical examination of the teacher or janitor and exclude them from the school until they present to the school inspector a certificate from the medical school officer as to his physical fitness for duty.

Nurses may visit the pupils' homes and confer with parents, but must keep a written record of these visits.

#### FIRST AID.

In cases of emergency a school medical officer or nurse may render first aid, but not prescribe. The school medical officer must confer on sanitary conditions of the school.

The school inspector shall also assist in organizing the special classes and preparing the syllabuses authorized for sub-normal pupils.

Medical school officers must report either to their chief or the school board at least once a month, and a general report regarding the health of all children and conditions, including home environment, shall be made at the close of the year.

The duties for school nurses appointed in lieu of school medical officers are subject to the same regulations as the medical men.

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### DOCTORS WITH THE CANADIAN TROOPS

Among the Canadian physicians and surgeons who are on active service with the troops at Valcartier are:

From Toronto—Lieut.-Col. D. W. McPherson, D.A.D.M.S., 2nd Division.

No. X Field Ambulance—O. C., Major W. B. Hendry, Lieuts. H. L. Jackes and A. S. Lawson.

No. XI Field Ambulance—O. C., Major C. J. Currie, Major E. B. Hardy; Captains H. R. Holme, J. H. Wood, W. L. C. McBeth and H. Orr.

No. XIII Cavalry Field Ambulance—O. C., Major Wallace Scott and Captains R. S. Pentecost, G. R. Philp and N. J. L. Yellowlees, and Lieut. W. T. H. McLean.

From Hamilton—Nos. XII and XIX Field Ambulances are under command respectively of Major G. D. Farmer and Major J. E. Davey.

From London—No. XV Field Ambulance—O. C., Major E. G. Davis.

From Sarnia—No. XIV Field Ambulance—O. C., Major D. B. Bentley.

No. 1 Field Ambulance is in command of Lieut.-Colonel D. W. McPherson, with the following officers: Major W. Scott, Captain P. K. Menzies, Captain J. C. Calhoun, Captain P. G. Brown, Captain G. Hyland, Captain W. H. Fox, Lieutenant T. H. McKillip, Lieutenant H. B. Jeffs, Lieutenant O. J. C. Withrow.

No. 1 Clearing Hospital—The officers are: Captain C. E. Cole and Captain G. W. O. Dowsley.

No. 1 Stationary Hospital is in command of Major D. B. Bentley, with the following officers: Captain W. H. Tytler, Captain W. Bethune, Captain J. J. Fraser, Captain W. A. Burgess, Captain S. Ellis, Lieutenant J. N. Stewart, Lieutenant F. S. Ruffan, Lieutenant G. Stewart.

No. 1 General Hospital is in command of Major E. B. Hardy, with the following officers: Captain R. H. Nicholls, Q.M., Captain R. S. Pentecost, Captain G. R. Philp, Captain W. L. C. McBeth, Captain J. H. Wood, Lieutenant F. S. Burke, Lieut. G. C. Glidden.



Are you particular as to the condition of the iron in your Bland preparations?

Frost's Perfected Bland Capsules present True Ferrous Carbonate.

Each 10 grain Capsule contains, approximately, 1 grain of Iron.

*Charles E. Frost & Co., Montreal.*

## News Items

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McGill University is to grant one term to all students who enlist.

St. Thomas, Ont., is to have a new hospital in charge of the Sisters of St. Joseph.

Dr. David Wiley, Andover, N.B., is taking a year's hospital work in Portland, Oregon.

A French-Canadian physician has donated \$50,000 towards a French-Canadian Contingent.

The College of Physicians and Surgeons of Quebec gave \$1,000 to the Canadian Patriotic Fund.

The Children's Hospital, Montreal, is asking for funds to carry on its work. There is a deficit of \$7,000.

Dr. Geddes, professor of anatomy in McGill University, has been summoned to join his regiment in England.

Dr. J. S. Gray, registrar of the College of Physicians and Surgeons, Manitoba, has returned from England.

Dr. J. W. Good, Winnipeg, has returned from a trip round the world. He visited hospitals in Japan, China and Russia.

Dr. G. W. Anglin, senior surgeon at the Kingston General Hospital, has volunteered for active service with the second Canadian force.

During the last hospital year the Children's Hospital, Toronto, treated in all its departments 31,970 patients. Last year the hospital had a deficiency of over \$18,000.

The medical faculty of Queen's University, Kingston, calls upon the Ontario Medical Council to arrange for reciprocity with the General Medical Council of Great Britain.

Dr. W. J. O. Malloch, Toronto, senior assistant surgeon on the service of Dr. Herbert A. Bruce, Toronto General Hospital, recently underwent an operation for gall stones, and is recovering rapidly.

Dr. W. H. B. Aikins, vice-president of the Academy of Medicine, entertained at the York Club the evening of the 3rd of November, the guest of honor being Dr. Sippi, Chicago.

Dr. Chas. A. Hodgetts, Ottawa, medical advisor to the Canadian Conservation Commission, has been appointed Commissioner for the Canadian Branch of the Red Cross Association and has sailed for England.

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## Original Articles

### THE IRON SHOVEL

By A. C. E.

Shortly after one o'clock, one hot July afternoon, a large touring car sped away from the offices of the big chemical industry at one end of an Eastern Ontario town. On the left sat a young man, whose clean-cut, set face contrasted markedly with the gray beard and white, calm one of the owner.

"That is the cottage, Henry, that one on the right with the screen door," cried the young man, addressing the chauffeur, as they motored along between the two rows of cottages occupied by the factory employees at the farther end of the town. The car drew in to the curb.

"I hope we're before them," said the older man, as he hurriedly stepped out on the concrete walk. The younger had already alighted.

The young foreman, Walter Hart by name, catching a glimpse of a collecting crowd of men and children from the other cottages, told the chauffeur to pull along down to the end of the narrow street and await orders. Then, seizing the arm of Mr. Mason, the manager, he hurried that gentleman to the cottage door.

Walter Hart threw back the screen door, which was unhasped, and gave a brisk knock.

The door opened: and instead of the expected ordinary factory hand's wife with two or three unkempt young children clinging to her skirts, the manager saw a decidedly attractive young woman, as neatly and tidily dressed as she was pretty.

"This is Mrs. Byrne, Mr. Mason, the widow of Amos Byrne, who took ill and died so suddenly when cleaning out one of the bleaching-powder 'stills' three weeks ago."

Mr. Mason, who was a most kindly man, took the hand of the relict of Amos Byrne, as the foreman closed the street door. He was surprised at its softness, surprised at the calm brown eyes and intelligent brow, surprised at the neat, tidy appearance of the young woman, surprised at the tasteful, if inferior, surroundings. He had not been given to visiting the cottages of his employees.

"I'm very sorry for your trouble, Mrs. Byrne," he murmured in a conventional voice and speech, as he surveyed the "Mona Lisa" expression of enigmatical resignation.

A sincere and truthful woman, she could not bring her lips to speak what her heart felt not.

"My trouble is not greater than I can bear, Mr. Mason," she replied, looking frankly into his eyes.

The answer was so unexpected, so unusual under the circumstances—circumstances of which he felt sure she did not know, that the manager sent an inquiring glance at the foreman.

"Come, Mary, you should not speak like that," spoke up Walter Hart; "you might be sorry for it hereafter."

"Walter Hart, you have known me for a long time. Perhaps he has told you," turning to Mr. Mason, "we are old friends, old schoolmates—and you know I always speak as I feel. My husband," she went on in explanation, "was very unkind to me during the three years of our married life; indeed, cruel, absolutely cruel. I lost all love for him long since; but when he was brought home ill five weeks ago, I nursed him as I knew how and followed out the doctor's orders as far as I was able. At first I thought he was shamming; and the doctor, too, thought he was shamming, malingering, I think it was, he called it."

"That is just what I have brought Mr. Mason to see you about now, Mary—you know, your husband was only at the works a few weeks—and I am practically the only friend you have in the town," and Walter placed a chair for her and also asked his manager to be seated.

"You have been very good, Walter, during all this trouble Mr. Mason speaks about, and you are yet very kind, but it is a great relief to me, I can assure you."

Mr. Mason held up his hands in protest at this plain speaking, and motioned Walter to proceed.

"I'm very sorry, Mary—but I've brought you—bad news," whispered Walter in a hesitating voice.

"Not from home, Walter—not from mother," as she folded her white hands resignedly in her lap, with a far-away, New England look.

"I'd best out with it," blurted Walter, looking across at Mr. Mason.

"Mary, you are to be arrested, charged with the murder of your husband. One of our men, a brother of the assistant constable of the town, told me so right after the noon hour. The chief and his assistant may be here almost any moment. That is why I brought Mr. Mason, our manager; for if anything can be done, I am sure we shall both be only too glad to aid you."

They were both bewildered at her calmness. Perhaps she did not realize the fearfulness of her situation.

"Walter Hart, would you believe me guilty of such a crime?" and the placid brown eyes seemed to penetrate into his very soul.

He hung his head as he breathed:

"If you say 'no,' Mary, I will believe you."

"I am entirely innocent," she murmured in a sweet, low voice; and as his eyes sought hers again, there was something of an understanding wafted between them.

He arose and took her hand.

"I believe you; I'll stand by you," he spoke firmly.

At that instant the two officers of the law came to the door, entered, and took their prisoner away.

Walter Hart went out and whistled for the chauffeur. The manager went on home to his luncheon. The foreman, pushing his way through the thronging little street, walked back to the works.

In looking after the workmen that afternoon under his charge it was almost impossible for Walter Hart to keep Mary Byrne, or Mary Matthews, as he had known her years before, out of his mind. He recalled that she was a daughter of respectable tradespeople in his old New England home; that she had always been a quiet, well-behaved, and generally well-liked schoolmate; that as she grew to womanhood she was a model of self-possession, never known to get angry, never boisterous, but always seeming in the best of good nature. He could now conceive of no reason why she should be charged with the murder of her husband. He had often wondered how she had come to marry Amos Byrne, whom almost every one in his New England home had disliked, for he was ever a bully. Walter Hart had been in Eastern Ontario a number of years before Byrne had come to the chemical works seeking employment; and it had been only on one or two occasions he had gone to their little cottage to renew acquaintance with Mary. What he had seen of the rough treatment of the wife had warned him to stay away. But he was to be enlightened as to the murder charge, together with the rest of the townspeople, the following morning.

The case was then to come up for preliminary hearing before the police magistrate.

In the forenoon of the following day all the town knew that Mary Byrne was charged with poisoning her late husband gradually with some preparation of arsenic.

This information had been laid before the authorities by the doctors who had made the post-mortem examination. The symptoms of Amos Byrne's illness had so baffled the skill of the regular factory medical attendant that, after securing Mrs. Byrne's consent, he had called in a brother practitioner, whom he had had in consultation, to assist in the autopsy. Even then it had been impossible to say exactly the cause of death, as all the organs of the man's body had been found in a healthy condition. It was only after careful and systematic scientific examination and analysis for days after the post-mortem that the true cause of death had been ascertained to have been arsenical poisoning. Hence the laying of the information and subsequent arrest of the pretty widow.

The afternoon of the preliminary hearing, Walter Hart sought the private office of his manager, Mr. Mason.

"Hart, this is a bad business," began the manager, as the foreman came in and closed the door.

"Yes, sir, it is, but I fully believe she is innocent," rejoined Walter, as he took the chair indicated at the side of the desk.

"Why, man, she is a most finished actress—there's a summons," pointing to a paper on the desk. "I've been served with a subpoena to give evidence as to what passed the other day between us at the cottage."

"But even supposing her capable of it, where do you suppose she got the poison?" argued the foreman, rather disturbed at the manager's reference.

"At one of our two drug stores, of course," confidently.

"I have been to both, and they positively state they have not sold any arsenic for a year, except in doctors' prescriptions; and not even any rat poison for two months—and certainly not to Mary."

"Why do you always call that woman Mary, Hart?"

"Well, she is an old friend—I always called her Mary—I couldn't go back on her at a time like this," and the foreman twirled the workman's cap in his hands.

"It's a bad case—there's the evidence of the two doctors," continued Mr. Mason.

"That's just what I came to see you about, Mr. Mason," explained Walter.

"What can I do?"

"I want to ask you, sir, to advance me a year's salary so that I can engage the best chemist in Montreal to come on here and make a thorough investigation of this whole business. I'm not satisfied. I know the case looks black against her, but she sha'n't want for aid if I can help her. I'll tell you, sir," the foreman went on, "I believe the man got that sickness from the bleaching-powder 'still.'"

"Utter nonsense, Hart! We don't use arsenic in the entire works."

"All I can say, sir, is this: I remember once when I first came here going into one of the 'stills' to clean it out, that I felt quite qualmish and had to get right out."

"Never heard of any one getting sick in one of the 'stills' or retorts all the time I have been at this business, and that is over thirty years, Hart," emphatically exclaimed Mr. Mason.

"Well, sir, it is either the 'still' or one of those doctors," just as emphatically declared the foreman.

"Hart, what do you mean" questioned Mr. Mason excitedly.

"I mean, Mr. Mason," and Walter Hart brought his fist down hard on the manager's desk, "I mean, first of all, that I love that woman and firmly believe in her innocence. I know she has had a miserable life with that dead brute of a husband. I wanted her to leave him long ago. Then I mean," and his chin shot out, "that there are two alternatives to this business: either the man got his death in that 'still,' or,"—he hesitated for an instant as if he were about to make a serious charge—"that doctor who attended Byrne gave him the arsenic himself," and the foreman held a steady gaze at the astonished manager.

"Hart, now you are going too far. Your heart is getting away with your usually level head," replied the perturbed manager.

"Not a bit of it. I'll tell you more, sir—but this is all in the utmost confidence. Do not breathe a word of it to any one, not even to the wife of your bosom, for the town is pretty well worked up over this affair, and I venture to say that as soon as Mary Byrne goes free they will cheer her."

The manager, now intensely interested, promised absolute secrecy.

"On the plea that I wanted to engage a lawyer for her, I was allowed to see Mary for a few minutes to-day. She told me the attending doctor had passed Byrne for \$5,000 for some life insurance company about a month before he was taken ill, but that she did not know anything about where the policy was, or in what company he was insured. She also said the doctor had tried to

make love to her on two or three occasions when her husband was nearing death's door, and that he had called on her twice since, and that she had forbidden him the house. He had even been to see her at the jail, gaining admittance to her presence on the plea that he was the medical adviser to the prisoner. Now, what do you think he said there? He told her that if she would agree to marry him he would get her off, and then they could leave for another field of practice. Nice man, isn't he, sir?" sneered the now relieved Walter, since he had taken some one into his full confidence.

Mr. Mason sat back in his chair. The factory doctor, he knew, was a widower, and somewhat off color with the other members of the faculty in town. He had got his position at the works on account of cutting under the rates of the other physicians. His consultant on the case, and assistant at the autopsy, was a young man recently established. The others had refused to consult with the factory doctor in this case. Mr. Mason was a man highly respected and beloved in the community, a just and upright man; and he valued his foreman highly and admired his manly qualities.

"Hart, I'll not advance you the money. I'll engage my own lawyer and engage the chemist myself. But you must be very discreet. If it got out you loved this pretty widow, but unfortunate woman, you might become entangled in the case more than either of us can now foresee," and Mr. Mason arose, indicating for the present there was no need for further confidences.

All that night Walter Hart pored over his "Rensen," which he resurrected from the bottom of his trunk. In his high school days he had had a particular fondness for chemistry. He brushed up on bleaching powder, sulphuric acid, hydrochloric acid, chlorine gas, manganese, iron, lime, carbon, arsenic, sulphur, and several other substances. The morning light found him pale, exhausted, but determined. He had gained nothing from his all night grind. He was thinking at his work in the forenoon that he had almost better have asked Mr. Mason to employ a detective when he was summoned to the manager's office. The one thing which stuck with him was his own personal experience. If the chemical expert failed him there was nothing left to do but put the detective on the trail of the doctor.

The celebrated chemist from Montreal had come up on the night train. Walter took him at once to the "still," conversing all the way on the manufacture of bleaching powder.

Arrived at their destination the expert asked:

"Has this retort been cleaned of the refuse since your workman was taken ill?"

"No, sir. To my knowledge it hasn't been used, and no one would interfere with it in any way."

"Before the man went into it, do you know if it had first been cooled?"

"Yes."

"Had it been properly ventilated at the bottom and at the manhole at the top before he entered it?"

"Yes," answered the foreman. "It had been opened for several hours."

"And steamed and cooled?" continued the expert.

"Yes. Steamed for four hours as usual and then cooled," affirmed Walter.

"Everything is just as he left it?"

"Yes, sir."

The expert picked up a "muzzle." He examined this carefully; then the wooden buckets for carrying out the debris; looked in at the small opening near the bottom; ascended the ladder and surveyed the interior from the manhole, returning to Walter's side.

"I do not see how I can help you. I cannot conceive how by any process or even chance arsenic could get into that 'still.' In fact, I can state positively there is no chance at all."

"But you will at least make a chemical analysis of the 'mud'?" demanded Walter, quite nettled.

"Where's the use? Even you must know arsenic does not enter into the manufacture of the ingredients."

For answer, Walter grabbed up a bucket and hurried up the ladder. When he was half through the manhole, the factory doctor drew up alongside the "still" on his way to an injured workman.

"What's up now, Hart?" he queried, as he reined in his horse.

"Oh, Mr. Mason has brought an expert up from Montreal to see if Byrne could have got any arsenic from the 'still,'" and Walter disappeared, as he did not want to have any words with the factory doctor.

"Never heard of such a thing in a bleaching-powder 'still,'" muttered the doctor in the direction of Walter, as he whipped up his horse and hurried to his call.

With the wooden bucket Walter scooped up some of the "mud" at the bottom. It was a semi-liquid or pultaceous, greenish-colored deposit when brought to the light. The expert admitted he might have been hasty in his pronouncements. Walter was determined to have the expert analyze that "mud." He took him to the nearest drug store, where the chemical examination revealed arsenic in decided quantities. But how it got there was yet a puzzle. Walter knew as well as the expert that arsenic was in no way employed in

the manufacture of bleaching powder; but having forced the analysis, the result strengthened his determination to fight for the woman he loved. It was obvious to him that he would now have to take the expert to the chemical works to make a searching examination of the ingredients employed. He knew very well that bleaching powder was formed by the action of manganese dioxide upon hydrochloric acid in the presence of heat, liberating chlorine gas, which saturated the freshly-slaked lime. He jumped to the conclusion that one of the ingredients must be vitiated. His conclusion was corroborated as the chemist ascertained that the crude hydrochloric acid manufactured on the premises contained arsenic.

Walter was elated. He had satisfied himself of the presence of arsenic and the manner in which it became involved in the "mud." There remained the question: How did it get into the man's system, if it did? This baffled both Walter and the expert. His elation was of short duration, but though his face dropped, it assumed a fixed expression of resolution.

The trial came on the following morning. When Walter Hart came into the court-room he saw Mrs. Byrne sitting calmly in the prisoner's dock, unmindful of the many eyes upon her, for they were nearly all those of strangers. She had made no friends during her short life in that town. She had splendid control of herself, was fully conscious of her innocence. She trusted in her God that right was might and that justice would prevail. Walter could divine all this and see that her apparent unconcern occasioned much comment.

Both doctors gave their evidence, attesting to finding sufficient quantities of arsenic in one of the fluids of the body to cause death. They agreed that no disease had been diagnosed, that no diseased condition had been found at autopsy in any organ of the body, and that in their opinion death had not been due to natural causes, but was due to arsenical poisoning. How it had been administered they could not say.

The inference drawn from their testimony was that it had been surreptitiously administered by the defendant.

Mr. Mason was called to recite the conversation he had had with the defendant the day of the arrest. His lawyer vigorously protested that this was not evidence. The court deemed it essential and it was allowed. The manager's evidence added fuel to the blaze of indignation Walter felt in the atmosphere of the crowded room.

The foreman was next put in the witness box. He attempted to show that Mrs. Byrne's conversation to Mr. Mason was justified. He had known that the deceased had been cruel, even brutal, to

his wife. He was put through a long series of questions by the prisoner's counsel. Many of them seemed aimless and thoroughly irrelevant. The attorney was allowed wide scope by the court. He questioned the foreman very closely, carefully, and at great length, on all the processes in the manufacture of bleaching powder, the position of the "still" in relation to the other retorts, their structure, the workmen, their implements and habits, in fact, nearly everything he could think of about the chemical works. When about to finish with his apparently all but aimless inquiry, he asked the foreman another careless question. Like a great many of the lawyer's other questions, it had no apparent meaning to judge, jury, or to the majority of others in the room, probably to the lawyer himself, even; but to one it meant everything. Then he waved Walter down as it was answered. Despair showed plainly in the latter's face.

As Walter stepped down from the box, however, the significance of his reply clutched his consciousness. He turned deathly pale, gripped the railing of the box an instant, and then staggered blindly to his seat beside the chemical expert. He gasped a few words to that individual. A flood of light flashed swiftly across the latter's intelligence. The expert instantly sought the lawyer's side.

The young foreman quickly recovered himself and darted a reassuring and confident glance at the fair prisoner's inquiring gaze. Then his eyes rested fixedly upon the lawyer. Up to this time that person had no intention of calling the chemical expert. The information he had elicited about arsenic was to be locked up in three bosoms. It could only do his case harm. He was fumbling with his notes when he felt his gown plucked, and, turning, saw the chemical expert, asking to be put in the box. The man was evidently deeply moved, as if something unusual had stirred him, so the lawyer immediately complied. Walter's agitation and the expert's solicitation pointed the way for the first question. It was shot swift, straight and direct:

"What killed Amos Byrne?"

"An iron shovel," came the answer.

Judge, jury, spectators leaned forward, astounded. It was Walter Hart's answer, repeated, to the lawyer's last query to him.

It had always been the custom to clean out the "still" with two wooden buckets, two workmen being employed. One worked below scooping up the debris and carrying it to the top of the ladder and the other going down outside to empty it, exchanging pails at the top. It was a coincidence, but a fatal one, that, on the day Byrne had been sent below, he had used an iron shovel.

The crude hydrochloric acid at this time had been impregnated with arsenic. The chemical expert rapidly explained how arsenical fumes would thus be given off, and the man fall a victim to one form of industrial poisoning.

Mrs. Byrne stood free. As Walter Hart had predicted, the crowd cheered her in spite of the prompt call of the court for order. They were both roundly cheered when he passed quickly to her side, for the judge immediately dismissed the case.

## THE USES OF PETROLEUM IN THE TREATMENT OF CONSTIPATION AND OTHER DISEASES IN INFANTS\*

By ERIC PRITCHARD, M.A., M.D. (OXON.), M.R.C.P., ETC.

Physician to the Queen's Hospital for Children; Physician to Out-patients,  
City of London Hospital for Diseases of the Chest (Victoria  
Park); Hon. Physician for Infant Consultation, St.  
Marylebone General Dispensary, etc.,  
etc., London.

The therapeutic uses of petroleum for internal administration are almost as old as history itself. Herodotus and Pliny both refer to it in their writings as a liquid with medicinal properties of considerable value. During the eighteenth and early nineteenth centuries, travellers in Russia, Roumania, Bavaria, South America and other countries where oil wells are situated refer in their writings to the consumption of liquid bitumen, white naphtha, or St. Quirinus's oil, by the natives as cures for various diseases. On the other hand, since the time that paraffin was introduced into Europe for lighting purposes, medical literature has abounded in references to cases of accidental poisoning and attempted suicide by swallowing of the crude oil. This fact explains the very natural prejudice many people at first evinced at taking the purified form of paraffin by the mouth for medicinal purposes.

My first acquaintance with the uses of the more refined and non-toxic varieties of paraffin dates from the year 1893, when petroleum in the form of an emulsion was brought to my notice as a substitute for cod liver oil in the treatment of consumption and wasting diseases. Under the late Dr. W. B. Cheadle's directions I gave this new emulsion a prolonged and careful trial in several cases of tuberculous disease in children who were warded in St. Mary's Hos-

\* The American Practitioner.

pital, but with such disappointing results that we soon abandoned its use in favor of our old friends cod liver oil, maltine and steel wine.

If, at that time, I had known what I learned a few years later, namely, that Dr. N. A. Randolph,\* of Philadelphia, had conclusively proved in the year 1884 that all paraffin when swallowed by the mouth passed through the alimentary tract in an unabsorbed and unchanged condition, I should probably have spared myself the trouble of making clinical experiments to prove its virtues as a food. When I entered into private practice a few years later I was surprised to observe that the psychological influence of persistent advertisement had already won for this petroleum emulsion a strong position in the affection of the medical profession as well as of the lay public as a cure for bronchitis and other pulmonary complaints. Knowing then that petroleum acted merely as an inert substance in the alimentary tract, and that none of it was absorbed into the system, I came to the conclusion that its reputation depended either on the same properties as those which belong to bread pills, or on the considerable doses of hypophosphites which were added, very wisely, on the principle that if the petroleum failed the added drugs might succeed.

In the year 1906 I began to alter my views with respect to the value of petroleum, for I came to the conclusion that it must possess therapeutic properties of a very rational character in the treatment of constipation, and that as a remedial agent in this condition it must be indirectly valuable in many other morbid conditions.

My enlightenment came in this way. I was at the time in great difficulties in respect to the treatment of constipation in infants, for I found that if the rational treatment of this condition by olive oil, a line of treatment which I greatly preferred to the irrational use of drugs, enemas, or glycerine suppositories—was pursued to its logical conclusion it led one to a most unfortunate *impasse*. An occasional teaspoonful of olive oil is an excellent corrective to constipation in infants when this condition is due to a deficiency of fat, but in those cases in which constipation supervenes in spite of the fact that fat is already supplied in adequate amount, the additional administration of olive oil only aggravates the symptom. In trying to discover some lubricant which could effect the required object without causing so-called "fat injuries," I called to mind certain observations which had been made some years previously by Dr. Robert Hutchison† in which he pointed out that, although the

\* Proceedings, Academy of Natural Sciences, Philadelphia, 1884.

† British Medical Journal, March 24, 1909.

claims of the manufacturers that petroleum emulsion could serve as a substitute for cod liver oil could not be substantiated, it was possible that petroleum itself could act as an artificial substitute for mucus, and thus be of value in other directions. This idea of employing petroleum as an artificial substitute for mucus in cases of constipation appealed strongly to my imagination. I therefore decided to give it an immediate trial and made my first experiments on a number of infants who were attending at my infant consultations in Marylebone, and were suffering from constipation.

The success which attended my early experiences with petroleum as an intestinal lubricant for infants was so encouraging that in a very short time I practically abandoned all other forms of aperient medicine, and it is most gratifying to me at the present time to realize how widely this idea has been taken up in the treatment of constipation in older subjects. While giving Dr. Hutchison full credit for his suggestion that petroleum might play the part of an artificial mucus, I must claim some credit for having proved the practicability of the idea. I make this claim because I now hear it said that there is nothing new in this idea and that petroleum had always been used for this purpose. If this is so I cannot understand why in medical text books and in special works on constipation heretofore published, and in the special number of *The Practitioner*, published in May, 1910, which was devoted to the subject of constipation, there are no references to the use of petroleum in this connection. I have very carefully examined all the literature of the subject, and before 1906, when I first began to use petroleum in cases of constipation, I can find no reference to its use in such a connection—it was, however, largely used empirically in pulmonary affections and as a substitute for cod liver oil, under the mistaken belief that it could be absorbed from the alimentary tract, but it was for the very reason that it could not be absorbed and subserve these reputed objects that induced me to try it as an expedient in constipation. Although I had repeatedly pointed out, both in public and in private, the merits of petroleum in cases of intestinal stasis and constipation, it was not until I published a full account of its influence in such conditions in my book on the "Physiological Feeding of Infants," published July, 1909, and again in an article in the special constipation number of *The Practitioner*, May, 1910, that the petroleum method was given a trial by others. Now that the method has justified the claims I made for it I am told that there is nothing new about it and that it has been always used. Until, however, I am shown some reliable evidence that petroleum was deliberately and rationally prescribed as a cure for constipation prior to

1906, I shall continue to persist in my claim that I was the first to use it for this purpose.

Most of the paraffin which is now used for internal administration is of the liquid variety—"Petroleum liquidum purum": it is, however, a body of very indefinite composition. The official standards, while authorizing certain limits as to the volatility and specific gravity do not fix definitely the chemical composition of the oil.

It thus comes about that no two samples are exactly alike either as regards taste or composition, and manufacturers have taken advantage of these inconsistencies to sell special brands under registered names at fancy prices. As long, however, as a liquid petroleum is tasteless and free from toxic compositions, one kind is as good as another, and it certainly is unwise to pay a fancy price for a fancy name.

When the idea first occurred to me in 1906 to treat the constipation of infants by petroleum I thought I would try my old friend the original petroleum emulsion which had been so largely advertised as a substitute for cod liver oil, but then I remembered that it was fortified with considerable quantities of mixed hypophosphites, which might introduce fresh and undesirable complications. I therefore took counsel with the dispenser at the St. Marylebone General Dispensary, and between us we devised the formulary of an emulsion which, under the name of "Marylebone Petroleum Emulsion," has acquired quite a local reputation. The emulsifying agent in this preparation is a decoction of Irish moss, a very much better medium than gum acacia or tragacanth, which is usually employed. It is much cheaper, and it contains a small quantity of iodine, which I believe has a really beneficial influence on most of the conditions for which the emulsion is usually given. The flavoring is quite pleasant, and the small addition of benzoic acid preserves the decoction of Irish moss from fermentative changes. The following is the formula of the Marylebone emulsion:—

Paraffini liquidi B. P.	33.0
Acidi Benzoici	
Glusidi	a a 0.05
Olei Cinnamomi	0.10
Decoctum Chondri Crispi	ad 100.00

The chief trouble in prescribing this emulsion is that it is practically impossible to make it in small quantities; it must be made in bulk if it is to be of good quality. Another objection to the use of an emulsion of petroleum instead of the plain oil is that larger

quantities of the emulsion must be taken than of the oil itself; in fact, three times as much. And further, it is more expensive. These disadvantages, however, are compensated for by the more efficient action of the emulsion. Emulsions of petroleum are now made on an improved principle, which allows them to contain so high a percentage of petroleum as 60. And in these the emulsification is so fine that it is claimed that the petroleum is actually absorbed into the system and excreted in the urine; even if these claims are true, I cannot see that the absorption of a mineral oil is of advantage to the system; indeed, I can quite conceive that it might be very much the reverse.

The liquid paraffins which are now used in such large quantities are very much purer oils than those originally obtainable; a few of them are colored and flavored, and sold under fancy names as proprietary articles. We experimented at the St. Marylebone General Dispensary for a long time in an endeavor to flavor liquid paraffin in such a manner as to make it really agreeable to take. The best, however, that we succeeded in making was colored with chlorophyll and flavored with menthol. We called this Marylebone *Crème de Menthe*, and it has been very well received by those patients for whom it has been prescribed; and it certainly has more than a colorable resemblance to the liqueur. The great difficulty in making liquid paraffin really palatable is that comparatively few flavoring substances are soluble in it, difficulties which do not arise in the case of the emulsion.

During the last two years the use of liquid paraffins has been largely replaced by the introduction of solid forms which can be flavored and colored in any required manner; these are eaten out of a spoon like a confection or preserve, and answer all the purposes of the ordinary liquid oil.

Although in their natural state these solid paraffins look exactly like vaseline, they are, as a matter of fact, very special kinds of emulsion, and as such can take up coloring and flavoring matters to the point of saturation of the emulsifying agent.

The whole history of the discovery of these solid or emulsified paraffins is extremely interesting, but into this matter I cannot here enter. I can only refer those of my readers who are interested in the question to a paper of Mr. S. F. Pickering,\* which contains a full account of the whole matter. In a private letter to me, Mr. Pickering very kindly explains how it is that an emulsion of paraffin can be made so as to appear quite transparent, and at the same time

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\* Emulsions by Spencer Umfreville Pickering, M.A., F.R.S. Transactions of the Chemical Society, 1907, Vol. 91.

consist almost entirely of paraffin, with the merest trace of adventitious emulsifying agents. He says: "The explanation of the semi-solid or jelly emulsions is clearer to me now than it was then (i.e., in 1907, at the time he wrote the paper referred to above. E.P.). Globules of uniform size in a liquid medium require that medium to amount to about 25 per cent. of the volume of the whole mixture, for filling up the interspaces; if the globules are not uniform, the volume of liquid will be somewhat less; but a very large reduction in it involves the globules becoming distorted so as to fit closer, and ultimately they must assume such a form as a dodecahedron, being tightly packed, like bricks, together, with only a film of liquid of molecular thickness separating them. This accounts for the rigidity of the mass, its transparency, and its showing no visible structure under the microscope. Dry air causes it to demulsify by drying up the separating film, and when wetted it becomes opaque, as the films increase in thickness and the oil particles assume a globular form."

These solid paraffins are an immense improvement on the old vaselines which, until two years ago, were practically the only solid form in which petroleum could be administered by way of the mouth. It is difficult to imagine anything more nauseating than vaseline naked and undisguised as a medicament for oral administration. And yet, to my knowledge, it was largely prescribed in this form, at least at one hospital in London, and given to the patients in wooden pill boxes, with directions to be eaten with a spoon.

This inartistic method of dispensing solid paraffin has now been superseded by these solid emulsions, which can be colored and flavored in a great variety of ways. Many people much prefer these solid preparations to the liquid forms, or even to the simple emulsions such as I have described, but for infants there can be no doubt that the liquid emulsions are more appropriate.

The general claims of paraffin as an intestinal lubricant require no corroboration on my part, but in its special application in the treatment of those heterogeneous disorders of infancy which are often classified as indigestion, its great value is not yet fully appreciated by the medical profession. As I have elsewhere pointed out, most of the so-called troubles of indigestion in infancy are associated with disturbances of the motor functions, such as spasms of sphincters, enterospasms or dysperistalses of one kind or another. In these conditions it is obviously extremely useful to know of an efficient lubricant, such as petroleum, which can penetrate to the lower reaches of the bowels without absorption, and without chemical change. In severe cases of so-called colic, or windy spasm in

infants, I sometimes almost fill the intestines with petroleum emulsion; either alone or in combination with carbonate of bismuth. I learned the value of large doses of bismuth in such cases when I was investigating the causes of motor disturbances in infants, by means of the bismuth food and the X-rays. In many of these cases I noticed that the crying and pain subsided immediately after the administration of the bismuth. Since then I have given very large doses of this drug in combination with petroleum emulsion with the greatest confidence, and generally with the most gratifying results. The chief objection to the administration of bismuth in large doses is that its gritty properties make it distasteful to infants; this disadvantage is overcome by using the preparation known as "Glycerinum Bismuthi carbonatis," a most elegant preparation of milky softness, details for the making of which are given in *The Codex*. One drachm or even two drachms of this combined with an equal quantity of petroleum emulsion serves as a most efficient carminative for infants troubled with wind or colic. It may be given independently or combined with the contents of the infant's bottle. A mixture of this kind is a most efficient substitute for meconium to the important physiological functions of which I have repeatedly drawn attention. When this natural intestinal lubricant and antiseptic is by design or accident discharged from the bowel of the new born infant, disturbances of motor functions and enterospasms are very liable to supervene. In such cases the free exhibition of this artificial meconium has the most excellent effect in restoring comfort.

I am not prepared to support the statement that petroleum is a powerful antiseptic agent. Our experiences in attempting to discover an efficient preservative for our emulsions gave the lie to this belief, but all the same there can be no doubt that it does in some degree limit and retard the decomposition of those nutrient media in which it is combined in large proportion. It does so, I feel convinced, by coating either the bacteria, or the nutriment on which they thrive, with an impenetrable film of a substance which cannot mix with, or become incorporated in, the protoplasmic contents of the living cell. We know from experience that the stools of persons who regularly take paraffin are, if not exactly odorless, at any rate far less offensive than when the oil is not taken. This is, however, open to the interpretation that it is quite as much due to the rapidity of transit of food through the intestinal tract, as to the inhibitory influence of the petroleum on the growth of the bacteria themselves.

One of the most valuable uses of petroleum is in the treatment of thread worms in children. This subject, however, hardly comes within the compass of this paper, but I refer to it here because I believe that its almost specific action as a vermifuge in such cases, is dependent not so much on its lethal influence on the parasites or their eggs as upon its direct influence on the mucous membrane. Paraffin in its crude form has long enjoyed a high reputation as a local application in cases of catarrhal or diphtheritic inflammation of mucous membranes. It has been claimed\* that pieces of diphtheritic membrane when immersed in crude paraffin soon become soft and disintegrated. On similar grounds it might be supposed that paraffin when applied to unhealthy mucous membranes has a health giving and cleaning up influence. In the treatment of chronic catarrhs of the nose and pharynx, the purer forms of petroleum in combination with menthol obtained a very considerable vogue a few years ago, and when applied to the affected mucous membranes in the form of a fine spray by means of B. and W.'s useful little paroline nasopharyngeal atomizer, it affords results which in my opinion, are not surpassed by any of the more recent methods.

Whether, however, petroleum owes its undoubted efficacy in cases of intestinal disorder to its therapeutic effect on the mucous membrane, or to its undoubted influence on the motor functions of the bowel, there can be no question that in cases of thread worm infection it acts by ironing out, and cleaning up the crypts or other lurking places of an unhealthy mucous membrane in which the eggs have an opportunity to incubate undisturbed.

Although petroleum is, in the great majority of cases, a most efficient lubricant and aperient, nevertheless in certain exceptional instances it undoubtedly predisposes to constipation. This paradoxical effect, which must be familiar to all those who have had much experience with the drug, is, I believe, to be explained on the following grounds. In some individuals a regular action of the bowels can only be maintained by the stimulating and provocative action of irritating particles, such as the seeds or husks of fruits or vegetables. In such cases petroleum may predispose to constipation by its emollient influence on the mucous membrane, thus depriving the rectum or its neuromuscular mechanisms of the required stimulation. Such constipation is, however, quite compatible with relief of intestinal stasis in the higher portions of the bowel.

In considering the alternative hypotheses on which the undoubted efficacy of petroleum in cases of intestinal disorders may be explained, it may not be altogether irrelevant to remember that par-

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\*Year Book of Treatment, 1895, page 1678.

affin may have the same influence in inhibiting absorption of food, as I have suggested it may have in the case of bacteria; that is to say, it may coat either the food or the mucous membrane with an impenetrable film of oil in such a way as to interfere with the absorption of the products of digestion. In my experience hypernutrition or the absorption of an excess of food far more frequently interferes with sound nutrition than does starvation, and especially is this true of infants and young children of the upper and middle classes.

If this belief is well founded, it may be that the reason why petroleum proves so beneficial in many cases is because it retards rather than promotes the absorption of nutritive material.

As far as the treatment of infants is concerned, I have been quite consistent in my adherence to the emulsion in preference to any of the other forms in which it may be administered, and this is chiefly for the reason that the emulsions mix more intimately with the ingested food than is possible with the pure oil. I think that the softening effects of paraffin on the contents of the descending colon and rectum must be more pronounced when the oil is evenly distributed with the food than when it is confined to special portions, and for this reason I think it far better to give a dose of the emulsion with every feeding than to give only one dose of the undiluted oil during the 24 hours. I admit, however, that in certain obstinate cases the mass effect of a large dose of the oil given once a day reinforces the milder but more sustained influence of repeated doses of the emulsion.

I find petroleum emulsion such a universally useful preparation in the treatment of infantile disorders that now I almost invariably use it as the vehicle in which to prescribe any particular drug I wish to administer. It is quite immaterial whether the drug be soluble, insoluble, acid, neutral or alkaline; they all combine well with it, and their taste is effectually disguised. In the case of insoluble drugs, such as sulphur or bismuth, it is important to see that the bottle is well shaken before pouring out a dose.

Before I conclude, one word as to dosage. As a rule I give infants one teaspoonful of the emulsion after or with each feeding, but I do not hesitate to give even as much as half an ounce 6 or 8 times a day. I have never noticed any untoward results of the pure oil, and generally prescribe doses of half to three drachms once a day.

#### SUMMARY.

1. The internal administration of crude petroleum for medicinal purposes dates from very early days, but the use of the more re-

finer oils is of recent origin. Toward the end of the last century, it was largely administered in the form of an emulsion combined with hypophosphites under the mistaken belief that it possessed nutritive properties and could serve as a substitute for cod liver oil.

2. In 1899 Dr. Robert Hutchison repeated the almost forgotten experiments of Dr. Randolph (1884), and proved that petroleum was not absorbed from the bowel, that it had no nutritive properties, and that the only imaginable therapeutic purpose it could serve was as a substitute for mucus.

3. Acting on this suggestion, in 1906 I began to use paraffin as a rational specific in the treatment of constipation in infants.

4. I found petroleum emulsion extremely useful in the treatment of all forms of indigestion in infants.

5. Its efficacy in these conditions may depend on :

- (a) its lubricating properties.
- (b) its antiseptic properties.
- (c) its cleaning up effect on the mucous membrane.

6. Petroleum emulsion is a most useful vehicle for all sorts of drugs, soluble as well as insoluble, which are prescribed for infants. It may be given with perfect safety in very large doses.

## Reviews

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*The Physician's Visiting List* for 1915. Sixty-fourth Year of its Publication. Philadelphia: P. Blakiston's Son & Co. Price, \$1.25.

These visiting lists are issued in styles suitable for twenty-five patients weekly; fifty patients weekly; fifty patients weekly in two volumes; seventy-five in two volumes; one hundred in two volumes; perpetual editions for twenty-five; and fifty patients and monthly editions. The prices range from \$1.00 to \$2.50. There is a calendar for 1915-16; a table for calculating the period of utero-gestation; a chapter on incompatibility; rules for immediate treatment of poisoning; metric system; dose-table; a chapter on asphyxia and apnea. It is a very useful book.

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*Chemistry and Toxicology for Nurses.* By PHILIP ASHER, Ph.G., M.D., Dean and Professor of Chemistry at the New Orleans College of Pharmacy. 12mo of 190 pages. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$1.25 net. Sole Canadian Agents: The J. F. Hartz Co., Ltd., Toronto.

Nurses will find this small volume of much service in understanding many problems presenting to them in their daily vocations. The book will be found compact though instructive. Its practical import will be appreciated.

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*A Manual of Diseases of the Nose, Throat and Ear.* By E. B. GLEASON, M.D., Professor of Otology in the Medico-Chirurgical College, Philadelphia. Third edition, thoroughly revised. 12mo of 590 pages; 223 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$2.50 net. Sole Canadian Agents: The J. F. Hartz Co., Ltd., Toronto.

This book is designed for the use of students and general practitioners, and as such must cover the subject concisely, clearly and briefly. Thus more space is given to diagnosis and treatment than to rare and difficult operations. The formulæ have been revised and careful attention given to the use of cocaine, adrenalin, etc., whilst much new material has been added. The illustrations are well selected.

*The Pocket Formulary for the Treatment of Disease in Children.*

By LUDWIG FREYBERGER, J.P., M.D., Vienna; M.R.C.P., Lond.; M.R.C.S., Eng.; Barrister-at-Law; Toxicologist and Pathologist. Fourth Revised and Enlarged Edition, adapted to the British Pharmacopœia, with an Appendix on Poisons, their Symptoms and Treatment. New York: Rebman & Company.

The formulæ are arranged under drug headings, as, for instance, Acetanilidum. Then follow properties, use, therapeutics, dose, incompatibles, and a sample prescription. No doubt many useful prescriptions will be found. Where necessary correction of taste is set out, a very desirable piece of knowledge where prescribing for children is concerned.

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*A Laboratory Manual of Qualitative Chemical Analysis.* By A. R.

BLISS, Jr., M.D., Ph.G., Professor of Chemistry and Pharmacy in the Birmingham Medical College. Octavo of 214 pages, with working tables. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$2.00 net. Sole Canadian Agents: The J. F. Hartz Company, Ltd., Toronto.

First year students in medicine and students in dentistry and pharmacy will find this small volume of decided value in their practical studies of the subject of chemistry. The object of the manual is to treat of the systematic procedure for the detection and separation of the most common bases and acids. Part I. deals with the metals or cations; Part II. the acids or anions.

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*The Salvarsan Treatment of Syphilis in Private Practice, with Some Account of the Modern Methods of Diagnosis.* By

GEORGE STOPFORD-TAYLOR, M.D., M.R.C.S., and ROBERT WILLIAM MACKENNA, M.A., M.D., B.Ch., Physicians to the Liverpool Skin Hospital. New York: Rebman Company.

In this book are set out all the work done and the conclusions arrived at by the authors in their private practice after three years' employment of salvarsan. They have come to the conclusion that Ehrlich's is a great discovery. The four chapters are as follows: (1) The Cause of Syphilis; (2) New Light on Parasymphilitic Disease; (3) The Treatment of Syphilis with Salvarsan; (4) Combined Treatment of Syphilis with Salvarsan and Mercury. There are several photo illustrations.

*International Clinics.* Volume III. Twenty-fourth series, 1914.

Edited by Henry W. Cattell, A.M., M.D., Philadelphia and London; J. B. Lippincott Company; Canadian Agent, Mr. Charles Roberts, Unity Building, Montreal.

In this volume there are six articles on Diagnosis and Treatment; eight on Medicine; three on Electro-Therapeutics; six on Surgery; one on Child Welfare; two on Medical Problems; one dealing with Big Fees; one on the Waste in Medical Education. There is one colored plate, and numerous illustrations. It is a work which keeps everyone abreast of the times. The articles in *International Clinics* are always timely, present the best reading, and, being generally contributed by men who know, add worthy and valuable knowledge to current medical literature. There is no better means of keeping posted on medical topics. Everyone should be a subscriber.

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*Catechism Series—Medicine.* Part II., Second Edition. Revised and enlarged. One shilling each, net. Edinburgh: E. & S. Livingstone.

The diseases are taken up in separate form, questions are asked and the answers set forth in very concise reply. As an example, take gout. What is gout? What is its etiology? What is the pathology of gout? How is uric acid formed? How is its excess in the blood accounted for? Are there other theories of gout? What are the morbid changes? Describe an acute attack. What are the changes of chronic gout? What are the other forms of gout? Mention the complications. How would you treat an acute attack? What is the treatment of chronic gout? The *Catechism Series* are helpful aids to students.

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*The Backward Baby.* By HERMAN B. SHEFFIELD, M.D., New York. New York: Rehnman Company.

This book is a prize essay which was awarded the Alvarenga prize of the College of Physicians and Surgeons of Philadelphia, July 14, 1914. It is a treatise on Idiocy and the allied mental deficiencies in infancy and early childhood. There are twenty-two original illustrations.

# Dominion Medical Monthly

And Ontario Medical Journal

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## COMMENT FROM MONTH TO MONTH

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The General Medical Council of Great Britain has a fine chance to show its magnanimity. Ontario physicians applying to the War Office to serve with the British forces on land or sea have been refused owing to their not having been registered with the G. M. C.—and all know there is no reciprocity with the Ontario Medical Council. Graduates from other provinces lacking this reciprocal status have been similarly refused. Of course there is nothing to prohibit Canadians practising with our own forces.

It is a most remarkable, even a most flippant, piece of impetuosity which rushes at the Ontario Medical Council to place the blame of the whole fatal heritage physicians in Canada are heir to upon that body; for it does seem a fatal heritage at the present time, when British subjects are debarred from serving the British Empire, either on land or at sea, simply because the home authorities, in the shape of the General Medical Council, block the way.

This war is at Great Britain's doors. Physicians' services are in demand—yes, urgently needed. Ontarians and other Canadians are eager to serve. The right thing to do, under the circumstances, would be for the General Medical Council to suspend the particular regulation debarring Canadians for the time being. It seems so easy, right on the spot, is more business-like, magnanimous, Imperial.

To travel to Ontario at such a time as this seems fantastic display. It surely must have been some facetious person who suggested "reciprocity in five minutes," if the Ontario Medical Council would act. One can fairly see the facile smile of the General Medical Council, their eyes faintly twinkling.

Let our famous Canadian, Sir William Osler, put it up to the General Medical Council! Let the General Medical Council "take the bull by the horns"! That is the way they throw him in Canada. Let them cut the Gordian knot at one fell swoop by suspending their own regulation.

## Editorial Notes

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### CANADIAN PHYSICIANS AT THE FRONT

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### ONTARIO MEDICAL ASSOCIATION

It has been decided that the meeting of the Ontario Medical Association will be held in Peterborough on May 25th, 26th, 27th and 28th next, and that the Provincial Health Officers Association, under the presidency of Dr. Hall, of Chatham, will hold its meeting in Peterborough also during the same week. The joint meetings of the two Associations will secure a very large attendance of the profession throughout the Province, and will probably result in single fares being obtained for the delegates.



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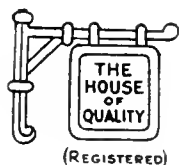
*Charles E. Frost & Co., Montreal.*

The accommodation for these meetings will be unusually good, as the Committee of Arrangements have succeeded in obtaining the use of several large halls, as well as of the Armories, all of which lie side by side, and are but a short distance from the hotels.

The Committee on Papers and Business, under the direction of Drs. H. J. Hamilton, of Toronto, and G. S. Cameron, of Peterborough, has already had several meetings, and the programme is in an advanced state. It is expected that about ten papers will be read in each of the main sections, and the names of readers already secured ensure a programme of great interest.

On the evening of the first day there will be a public welcome, given by the city of Peterborough, and a public address on some health topic will follow. The President's address will come on the evening of the second day.

Members of the Associations desiring to read papers should communicate at once with Dr. Mann, of Peterborough, or Dr. Strathy, of Toronto, forwarding the titles of the papers which they desire to read. The committee has decided that no papers will be presented unless an abstract thereof be placed in the hands of the committee before the first of March.



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## News Items

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Dr. J. R. Goodall, Montreal, was recently a guest of the Obstetrician Society of New York.

Dr. Chas. J. Hastings, M.O.H., Toronto, attended the annual meeting of the American Public Health Association in Jacksonville, Fla., and was elected first vice-president.

Dr. Edmund E. King has been re-elected by acclamation as the representative on the Ontario Medical Council from the Territorial Division of East Toronto.

Dr. Herbert J. Hamilton has been elected by acclamation representative on the Medical Council of Ontario from the Territorial Division of West Toronto.

The General, Notre Dame and Western Hospitals recently went to the City Council of Montreal seeking financial aid. The combined deficit of the three institutions stands at \$84,000.

Dr. A. G. Nicholls, Montreal, has been appointed to the chair of pathology at Dalhousie University, Halifax, N.S. Dr. Nicholls was assistant in pathology and lecturer in medicine at McGill.

Sir James Grant, Ottawa, has again been appointed representative for Ottawa University on the Ontario Medical Council. Sir James has continually sat in Council since that body was organized, and is the last surviving member of the original Council.

By the untimely death of Professor G. R. Mines, of McGill University, Canadian medicine loses one of its bright scientific men. The late Professor Mines came to Toronto University for a short time, working under Professor Brodie in the Physiological Department, and he had but recently been appointed to the chair of Physiology in McGill.









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